

SELF-ASSESSMENT REPORT ON THE QUALITY OF EDUCATION IN THE DOCTORAL SCHOOL

Szkoła Doktorska

Uniwersytet Rolniczy im. Hugona Kołłątaja w Krakowie

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PART A

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VISITING CARD

Basic Information about the Doctoral School

Year of Creation

2019

Institution running the doctoral school

Uniwersytet Rolniczy im. Hugona Kołłątaja w Krakowie

Field of Education	Education Disciplines
Agricultural sciences	agriculture and horticulture food and nutrition technology animal science and fisheries forestry
Natural sciences	biological sciences
Veterinary science	veterinary science
Social sciences	economics and finance
Engineering and technology	civil engineering and transport mechanical engineering environmental engineering, mining and energy civil engineering, geodesy and transport

Name/Scope of the Education Program (PL)	Name/Scope of the Education Program (EN)
plan zajęć obowiązkowych.	plan zajęć obowiązkowych (2019-10-01)
plan zajęć obowiązkowych..	plan zajęć obowiązkowych (2021-10-01)
plan zajęć obowiązkowych...	plan zajęć obowiązkowych (2023-10-01)

Characteristics of the Doctoral School

The Doctoral School (SD) of the University of Agriculture in Krakow (URK) was established by the decision of the Rector on 29-04-2019.

Its mission is closely aligned with the mission of the University, which focuses on the development of agricultural, forestry, natural, veterinary, environmental, technical, and socio-economic sciences related to agriculture, the food industry and forestry. The SD responds to the challenges of the modern world, such as the climate crisis, energy and digital transformation, food security, environmental protection, and sustainable development. It draws on its own potential as well as the resources of Kraków, one of the most important academic centres in Poland and Europe. The SD educates students, modern and globally oriented future scientists and academics, ready to conduct research at the highest level, formulate bold research hypotheses, work interdisciplinarily and in teams, and gain recognition in the international academic environment. The results of their work will contribute to the development of science, the economy and society, with a particular focus on Poland, the Małopolska region and local communities. Graduates of the SD will strengthen the academic staff of URK and research institutes in Poland and abroad.

The strategic goals of our SD are:

1. Scientific excellence and research ethics
2. Internationalisation of education and research
3. Integration of natural, technical and social sciences
4. Impact on the development of Poland, the Małopolska region and local communities
5. Development of future competencies: analytical, digital, managerial and communication skills
6. Open science and social responsibility

The SD operates on the basis of the SD Regulations adopted by the Senate of URK (updated on 12-01-2024), arising from the University Statute. A major advantage of our SD is the ability to provide education and conduct scientific research in 10 scientific disciplines belonging to 3 fields. The disciplines representing the field of agricultural sciences (agriculture and horticulture, animal science and fisheries, forestry sciences, food technology and nutrition), as well as veterinary, which are represented in our SD, are rarely present or not present at all in other doctoral schools located in south-eastern Poland. Doctoral education is offered through two programmes: the basic and the Eurohort, implemented jointly with Mendel University in Brno (Czech Republic). A very important part of the curriculum is the teaching of research methodology, with particular emphasis on data analysis. In addition to compulsory courses, doctoral candidates complete elective courses, including courses from other disciplines available at URK or at other universities and institutes in Poland and abroad. The curricula and the quality of teaching are regularly evaluated, and the conclusions of these evaluations lead to the introduction of appropriate improvements.

Given the profile of URK and the presence of several scientific disciplines, another strength of our SD is the ability to conduct education and research not only within each discipline represented in the SD, but also in an interdisciplinary manner. Students conducting their research in a chosen discipline can draw on the expertise of academic staff as well as laboratories and research models from other disciplines.

Another strong point of our SD is its highly qualified academic staff, whose scientific interests align with the key challenges of the modern world. This modern staff publishes in renowned scientific journals, participates in international research programmes, and takes part in major conferences in Poland and abroad. The quality of teaching provided to doctoral candidates is monitored as part of the quality assurance system, and the quality of scientific supervision (doctoral supervision) is assessed using the "Evaluation of Scientific Supervision" procedure, carried out in parallel with the mid-term evaluation.

Our SD is also distinguished by excellent students, recruited not only from URK graduates but also from other universities in Poland and abroad. The high level of interest in our SD confirms that both the SD and URK offer an attractive programme and the opportunity to conduct research at the highest level. One of our achievements is the admission of more than 180 students, including more than 50 from abroad. The openness of the recruitment process, including active efforts to attract talented candidates from developing countries (Africa, Asia), is an element that sets our SD apart in the academic environment.

An undeniable achievement of our SD is the high level of scientific research conducted by our students, as presented in their Individual Research Plans (IPB). The high standard is ensured by committees evaluating the IPBs, as well as committees assessing progress in their implementation after the mid-term evaluation, and those assessing progress in preparing the doctoral dissertation. The key element of assessing the quality and scientific activity of a student is the mid-term evaluation, carried out after the second year of study, more than 12 months after the approval of the IPB.

One of the most important achievements of our SD is its high educational efficiency. In the cohorts admitted in 2019–2021, more than 50% of students completed their education, and most of them obtained a doctoral degree. Another achievement is the high scientific activity of our doctorates, measured by the number of scientific publications, acquired research projects and active participation in scientific conferences. Doctoral candidates were authors or co-authors of 475 indexed publications (including 53 for 200 points) and scientific monographs, obtained 11 NCN's research projects, and participated in numerous national and international conferences. A system of mandatory application for research projects has been implemented, which not only enables the acquisition of funding, but also teaches future academics how to apply for research grants. These high scientific achievements of students are partly the result of encouragement from academic staff and the SD authorities to publish in high-quality journals and to apply for research funding. They also stem from the students' own initiative, exemplified by the organisation of an annual international doctoral conference, attended by doctoral candidates from other doctoral schools in Poland and by numerous participants from countries such as Slovakia, the Czech Republic, Romania and Ukraine. Our SD is a young university-wide unit, drawing on many years of URK's experience in doctoral education prior to the introduction of the Law 2.0. The new rules governing doctoral schools pose new challenges. The SD authorities, together with the SD Council, continuously analyse the quality of education and the scientific activity of doctoral candidates, and introduce changes to the SD regulations, recruitment rules or the procedures in force whenever necessary.

Additional Information about the Doctoral School

Educating Staff

Numerical data for the evaluation period

Educating Staff	Instructors	Supervisors	Assistant Supervisors
Number of people	39	86	42

Doctoral Students

Number of doctoral students (total): 159

Recruitment during the evaluation period	2019/ 2020	2020/ 2021	2021/ 2022	2022/ 2023	2023/ 2024	2024/ 2025	Total
Number of recruited doctoral students	12	26	31	33	30	28	160
Number of doctoral students who completed the doctoral school	5	12	6	0	0	0	23
Number of doctoral students removed from the doctoral student list	2	2	7	2	2	2	17

Mid-term evaluation results	Positive	Negative
Number of Doctoral Students	88	0

Educational Programs	Number of Doctoral Students
plan zajęć obowiązkowych (2019-10-01)	38
plan zajęć obowiązkowych (2021-10-01)	89
plan zajęć obowiązkowych (2023-10-01)	58

Additional Numerical Data on Doctoral Students

Number of foreign doctoral students	48
Number of doctoral students with disabilities	0
Number of doctoral students in the Implementation Doctorate program	14
Number of doctoral students in the EU program	0
Number of doctoral students employed by the institution running the doctoral school as academic teachers or research staff	12

Graduates

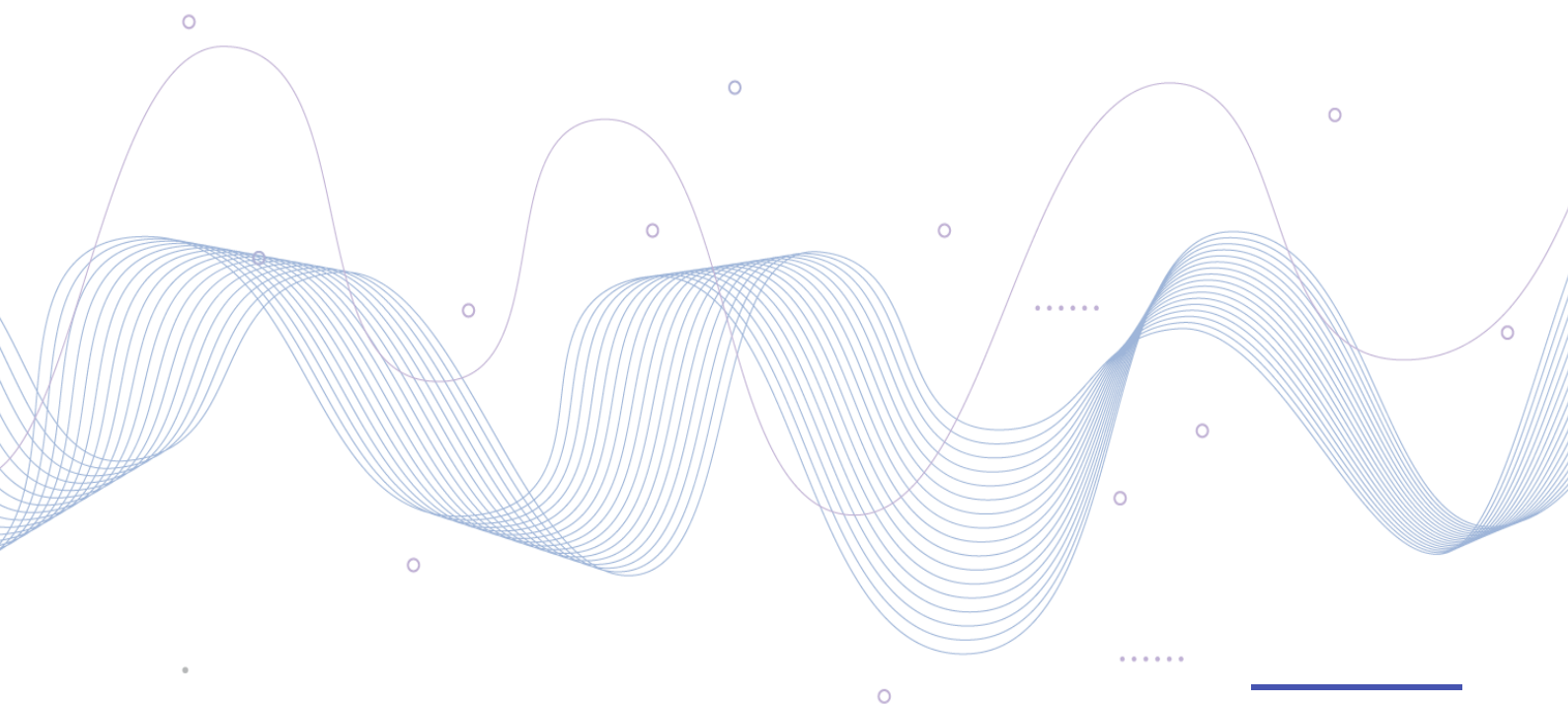
Numerical data for the evaluation period

Number of graduates who applied for initiation of proceedings for the award of a doctoral degree	20
Number of doctoral students who completed the doctoral school	13

INFORMATION ON THE ENTITY'S COOPERATION WITH THE DOCTORAL STUDENTS' COUNCIL

The Doctoral Students' Council of URK (DSC) is an organization of PhD students studying in the SD operating at the URK. The Council includes the Main Board, consisting of the chairperson, deputy chairperson, secretary and treasurer. The DSC closely cooperates with the authorities of the SD and the SD Council, and this cooperation takes place on several levels. The DSC provides opinions on key documents related to the functioning of the SD, including the regulations, the admission rules and the curricula. Conversely, the SD authorities provide opinions on the regulations of the DSC. Members of the Council represent PhD students in the Senate, senate and rectoral committees, discipline councils and other bodies requiring PhD student's representation (e.g., the SD admissions committee). Cooperation between the SD authorities and the DSC is particularly important in the development or revision of curricula, and the comments and suggestions of Council are carefully listened to and taken into account. The Council works effectively with the SD authorities in organizing important doctoral events, including the annual international scientific conference for PhD students, training sessions, and integration meetings of the Council and/or doctoral candidates. The SD authorities meet regularly with representatives of the Main Board to discuss current issues affecting PhD students and the Council. Both sides strive to maintain a high level of awareness regarding the rights and responsibilities of students. Any disputes concerning students are resolved by the SD authorities in consultation with the DSC. The authorities of URK, in cooperation with the SD, support the development of doctorates by providing financial resources for research and organizing training sessions on applying for research funding. The DSC appreciates the introduction of the supervisory evaluation into the SD regulations, as it increases the transparency of the supervisor-doctoral candidate relationship.

INFORMATION ON THE DOCTORAL SCHOOL GROUPED BY 8 EVALUATION CRITERIA



1. Adequacy of the education program and individual research plans to the learning outcomes for qualifications at PRK level 8 and their implementation

The education programs in the SD (Annex) enable PhD students to achieve all learning outcomes appropriate for a full qualification at level 8 PRK, in the form of advanced knowledge, skills, and social competences that allow for independent scientific research and problem-solving. The program is carried out in Polish or English (a total of 512 hours, 38 ECTS) and includes 6 compulsory modules: Conducting Research and Disseminating Research Results, Research Methodology, Doctoral Seminar, Higher Education Pedagogy, Intellectual Property Law, and Scientific English. Elective classes include specialist and interdisciplinary seminars, curricular classes for the field of study, internships, and international conferences. Professional practice is also a component of the program. The learning outcomes for individual compulsory modules (21 ECTS) are formulated in the syllabi and referenced to the specific learning outcomes included in level 8 PRK (Annex). Compulsory modules are delivered through lectures, workshops, seminars, and exercises. Elective classes (4 ECTS) are chosen by the students in consultation with the supervisor, and their purpose is to individualize education and deepen specialist knowledge related to the discipline in which the candidate conducts their doctoral research. Other classes and activities that allow the realization of learning outcomes consistent with level 8 PRK include participation in conferences (4 ECTS), specialist and interdisciplinary seminars (5 ECTS), and scientific internships (4 ECTS). Learning outcomes enabling the development of critical thinking, creativity, initiative-taking, and problem-solving are assessed through various forms: evaluation of presentations and scientific articles, completion of statistical analysis tasks, preparation of lesson plans or e-learning courses, written assessments, and submission of certificates for participation in specialist classes. On the basis of an agreement between URK and Mendel University in Brno, education is conducted in the European Horticulture program (Annex).

In consultation with the supervisor, the student prepares the individual research plan (IPB) in Polish or English (Annex), which elements, in accordance with the regulations of the SD, include a concise description of the dissertation concept, hypotheses and scientific objectives, justification of the chosen research problem, research tasks, description of research methods, a timetable for the implementation of research tasks specifying the start date and duration and indicating whether completion will occur before or after the mid-term evaluation, and a bibliography. Furthermore, the IPB contains information on planning other scientific activities, including research internships, preparation of publications and conference presentations, sources of funding, grant applications, as well as the planned date for submitting the PhD dissertation. The IPB includes the opinion of the supervisor and the Director of the SD. The learning outcomes for qualification at level 8 PRK, particularly skills related to conducting scientific activity, are achieved through the preparation and execution of the individual elements of the IPB. Implementation is regularly monitored by committees established for this purpose. References of individual types of scientific activity and dissemination of research results to specific learning outcomes appropriate for level 8 PRK are compiled in Annex. As part of interdisciplinary education, students complete courses related not only to their own discipline but also to other fields, which enables creative identification and innovative solving of complex research tasks, as well as multifaceted understanding of the world. A student may also prepare an interdisciplinary dissertation. In such a case, two supervisors representing the two disciplines are appointed. Interdisciplinarity is also implemented through inter-university cooperation (e.g., the Eurohort programme). Supervisors provide scientific support to doctoral candidates in seeking and carrying out interdisciplinary cooperation, both international and inter-university (research internships, preparation of grant projects), which increases the chances of obtaining funding sources.

Improvement of the education programs in the context of compliance with learning outcomes for qualification at level 8 PRK is the responsibility of the SD Quality Assurance Committee. The committee prepares annual self-assessment reports indicating possible corrective actions. In 2021, the current education programmes (Annex) were introduced. The improvement process concerned increasing the share of elective classes, allowing better adjustment of learning outcomes to the individual needs of students. The number of hours in the module related to mathematical analysis was also increased. In summary, the education programs in the SD and the IPB ensure full achievement of learning outcomes for qualification at level 8 PRK.

2. Method of verifying learning outcomes for qualifications at PRK level 8

The rules for verifying learning outcomes for qualifications at PRK level 8 have been adopted in the SD Regulations, as well as in the curricula and assessment regulations applicable to PhD students. The adopted verification system works well, and the high requirements regarding the acquisition of knowledge, skills, and social competences that we set for students bring very good results. Students complete their education within the prescribed timeframe, receive very good evaluations during the final stage of obtaining the doctoral degree (thesis defenses), most of them present very good publication records, apply for research projects, and willingly engage in collaboration. A significant number of students actively participate in the academic life of URK, working in the Doctoral Candidates' Council, serving as members of the Senate, disciplinary councils, URK commissions or organizing doctoral conferences. This activity demonstrates their very good social competences.

Learning outcomes are monitored at several levels. The foundation of education is participation in didactic classes, both compulsory and elective. Before each academic year, students, in consultation with their supervisors, plan their participation in specialist courses, and these plans are approved by the Director of the SD. At the end of each semester, the student submits a semester report on participation in classes, also confirmed by the academic supervisor. Compulsory and elective classes, including seminars, conclude with a grade awarded by the course instructor. The results obtained by students are analyzed not only by instructors and SD authorities, but also by the Quality Assurance Committee, which annually conducts statistical analyses of students' grades. This somewhat formalized assessment method helps discipline participation in classes. Sometimes it is difficult to obtain grades from courses/activities conducted outside the URK. After completing a course, a student may use the USOS system to anonymously evaluate the quality of teaching. They may not only assess the instructor but also suggest changes to course syllabi. We consider the anonymous evaluation system a very useful tool for improving the education process. It also develops students' social competences. Any doubts concerning the conduct of classes are usually resolved immediately by instructors or, if necessary, by the SD authorities. We particularly emphasize the appropriate selection of courses chosen by students, substantively justified and aligned with the topic of their doctoral research. We encourage them to look for courses that clearly enhance their competences (methodological, analytical workshops, etc.). This system allows for linking education with the individual needs of students. At the same time, to broaden their knowledge, skills, and competences, we encourage participation in classes offered in other disciplines, other Universities, or research institutions. We encourage them to consider the high academic level of the course as an important criterion when choosing. The analysis of selected courses and students' questions about available options confirm our belief that in the vast majority of cases these choices are appropriate, and approval is an important element in verifying the level and usefulness of the course. Most courses are completed through exams, pass/fail assessments, projects, presentations, poster designs, etc. In the short history of our SD, we have only had isolated cases of problems with passing a course, mainly due to absenteeism.

In the SD, learning outcomes are also thoroughly verified through assessment of students' scientific activity, primarily through systematic evaluation of the research planned in the Individual Research Plan (IPB), which is usually submitted at the end of April during the first year of study. After evaluation by a five-member committee appointed by the disciplinary council (a separate committee for each student), students begin the most important part of their research work. The IPB is also evaluated by the supervisor and reviewed by the Director of the SD. We particularly care about the high level of the planned research, ambitious publication plans, applying for research projects, and undertaking scientific internships. The committee evaluates the IPB by preparing a protocol, which very often contains substantive, methodological, and formal remarks. These remarks are primarily constructive. Their aim is not to demotivate the student but to help in planning and conducting research. The student, together with the supervisor(s), may respond to these recommendations/remarks within a set timeframe, and the conclusions and discussions with committee members often lead to modifications of the IPB. After approximately 12 months of IPB implementation, the student undergoes the mid-term evaluation (OŚ), described in another part of the report. This includes the evaluation of academic supervision (OON), in which the student assesses cooperation with the supervisor. Following the OŚ, the student undergoes further assessments verifying the progress of scientific research. This assessment is carried out according to the procedure outlined in the "Regulations for the Evaluation of Progress in the Implementation of the IPB and Preparation of the Doctoral Dissertation," and the same five-member committee appointed by the disciplinary council for the IPB evaluation performs this assessment 3 times (once per semester). The procedure requires the student to submit a report on research progress. Students also attach publications, certificates of participation in conferences, courses, trainings, etc. The conclusions from these evaluations are analyzed by the SD authorities and discipline coordinators, especially in cases where timely completion of education is at risk. Often, as a result of corrective conversations triggered by committee concerns, improvements in students' activity become visible. We consider these evaluations necessary and believe that thanks to them we achieve good educational outcomes in terms of timely completion of studies and obtaining the doctoral degree. Any uncertainties regarding IPB implementation are clarified. These often relate to publication delays. Progress evaluation is conducted after the 3rd year, in the middle of the 4th year, and at the end of the 4th year of study. The committee protocols are often very thorough and detailed, demonstrating the responsibility of committee members for educational outcomes. Based on the evaluation results, the Director of the SD decides whether to extend the period of study. Extensions of the study period are mainly caused by human factors, involvement in projects, and waiting for publications to be printed. Verification of learning outcomes and the scientific activity of students is also carried out through ongoing monitoring of publication achievements. Students inform the SD about publications or manuscript acceptance in their semester reports and in the evaluation reports described above. In these documents they also report their conference activities. SD authorities are kept informed about scientific internships and other forms of activity or achievements.

An excellent indicator verifying learning outcomes, not only scientific but also organizational competences, is the annual students' conference organized by the most active group of students. The large number of oral presentations delivered in English and the high level of posters allow us to highly rate the level of our students. The students' conference has been held annually since 2011. It has an international character, which further strengthens students' competences. A student actively participating in the conference has the opportunity to present their research results, often for the first time. Through participation in conferences, symposia, and seminars, students expand their scientific, research, teaching, and social skills. Very often, our students have been and continue to be awarded at scientific conferences for the high quality of their research and presentations (e.g., 4th-year student Mohammed Baba from Nigeria). Izabela Fedyń and Fabian Przepióra, students in forestry sciences received the MNiSW Scholarship for outstanding young researchers (2024).

Students submit research project applications, particularly in the Preludium competitions (NCN). Preparing and submitting a project is, for us, another method of verifying learning outcomes. Submission of a project is not only evidence of high scientific competence but also of practical skills and social competences (e.g., cooperation with URK administration). Students are supported in project applications by academic staff and SD authorities, as well as University administration, including the URK Research Office. Research Office staff assist in preparing the application, planning the project budget, and meeting formal requirements. Students who obtain project funding acquire the competences necessary for independently conducting and managing a research project, from idea, through application and implementation, to final settlement. In this way, the student builds the profile of a researcher. This part of education in the SD (education through project application and implementation) may be particularly beneficial for those planning further academic careers. It teaches independence and responsibility, and allows gaining recognition in the scientific community.

In summary, verification of learning outcomes for qualifications at PRK level 8 in our SD is comprehensive and most often linked to assessment procedures. In situations requiring it, we verify outcomes individually. We continue to develop and modify these activities. An example of new solutions is the recently introduced evaluation of progress in IPB implementation. In our opinion, the verification is effective because it brings good results in education and in students' scientific achievements.

3. Qualifications of academic teachers or research staff conducting education at the doctoral school

The teaching staff of the SD and supervisors of doctorates are recruited from among the academic employees of the URK assigned to the disciplines represented in the SD. URK is among the leading agricultural universities in Poland, and most disciplines conducted at the University received an A or A+ grade in the most recent national evaluation. This confirms the very high scientific quality of the staff, from whom the SD personnel are selected. In the future, we plan to expand the SD staff with outstanding researchers from abroad.

In selecting the teaching staff, we verify both their scientific competence and teaching qualifications. We assess their suitability for specific subjects based on scientific achievements and teaching experience, including work with students at the 1- and 2-cycle levels. We also consider student survey results, selecting the highest-rated teachers. The candidatures of individuals proposed to deliver courses are discussed by the Director of the SD and the discipline coordinator, especially for specialist courses. These decisions are also considered during meetings of discipline councils. This system of selection ensures a high quality of education. Individuals with outstanding scholarly and teaching achievements, aligned with the learning outcomes, are assigned to conduct courses. Their accomplishments are presented in Annexes. These staff members are authors and co-authors of academic textbooks and curricula, as well as supervisors of students who have won scientific competitions or received distinctions for their theses.

The selection of supervisors follows the regulations of the SD. We ensure that students choose supervisors from among individuals with exceptional publication records and strong recognition within the scientific community. URK offers a broad group of specialists qualified to act as supervisors, whose achievements are also shown in Annexes. The scientific output of the staff falls within the disciplines covered by the SD and is fully aligned with the intended learning outcomes. Staff members publish in prestigious, highly ranked journals, and are authors of patents and implementations. They participate in national and international research projects funded by NCN, NCBiR, NFOŚiGW, MNiSW, the Operational Programme Innovative Economy, regional operational programmes, EU initiatives, and even NASA. Many have received awards, including distinctions from the Rector, Ministry awards, and the KEN Medals. Members of the SD staff include laureates of the MRiRW Award for the implementation of research results into agricultural practice, as well as researchers listed among the "Top 2%" most influential scientists worldwide (Stanford–Elsevier ranking). SD staff have also supervised students awarded at national Scientific Circles Sessions.

To enhance their qualifications and competencies, staff members participate in major national and international scientific conferences, expert groups, international exchanges, and research internships abroad (e.g. USA, Canada, Portugal, Slovakia, Iceland, Japan, Spain, Turkey, Vietnam, Kenya, Austria). The SD staff also develop teaching competencies through participation in internships and educational programmes such as ERASMUS+ and CEEPUS. Among our staff are a Visiting Lecturer at the University of British Columbia (Canada), a Fulbright scholar and a participant of the TOP 500 Innovators programme. International mobility supports understanding of diverse education systems and research methodologies, fosters international collaboration, enables student exchange, and promotes the implementation of modern research and teaching methods, thereby strengthening the scientific and teaching potential of the URK and the SD.

Academic teachers and supervisors have completed numerous courses, including language ones and training related to supporting the learning process, such as working with students with learning difficulties and supporting students with disabilities. They invest in developing their subject-matter competencies. They systematically enhance analytical, statistical, and biostatistical skills, including courses organised by Johns Hopkins University. Staff members participate in training on research methodology, active teaching methods, digital and AI-supported tools, as well as crisis communication. They have also completed training on support for students with disabilities ("universities without barriers") and first aid.

The SD staff demonstrate a recognised and high level of scholarly and teaching achievements, enabling them to conduct modern courses based on the most recent scientific knowledge. These qualifications are continuously enhanced through international collaborations, participation in educational projects (e.g., "Strengthening the Teaching Potential of the University of Agriculture in Krakow"), and training in modern teaching methods. In the teaching process, we place particular emphasis on developing students' communication skills, critical thinking, teamwork, problem-solving abilities, and time management. Teachers conducting classes in the SD continuously improve their competencies in teaching these skills. The high qualifications of supervisors result from their active involvement in research, experience in obtaining grants and managing research projects, and collaboration with national and international research centres.

The SD employs a comprehensive system for assessing the quality of teaching and research activities of its staff. Employees undergo periodic class observations according to a plan approved by the SD Council. Any irregularities (none have been reported so far) may lead to exclusion from teaching. Students systematically evaluate the teaching staff through anonymous surveys in the USOS system and evaluate supervisors in the system for assessing scientific supervision (OON). The results of surveys and OON assessments are discussed by SD authorities and the SD Council. No issues related to the fulfilment of teaching duties have been reported to date, and any concerns related to supervision are addressed promptly with the involvement of both parties. Disputes are resolved amicably whenever possible.

In our view, the qualifications of teaching staff of the SD and supervising students are of the highest standard. Owing to the structure and size of the University, there is considerable flexibility in selecting individuals to teach PhD students. Additionally, academic staff independently engage in professional development to enhance both their teaching and research competence. The University and the SD support participation in initiatives open to a broad group of employees (courses, training, educational programmes). Staff competencies are continuously verified, including through student evaluations, and conclusions from assessments (class observations, OON, surveys) are analysed and incorporated into the activities of the SD.

4. Quality of the recruitment process

The recruitment process for the SD is conducted in accordance with legal regulations and with the highest academic standards. The purpose of the procedure is to provide a reliable assessment of the candidates' knowledge and competencies for conducting research. The admission is carried out as an open competition, ensuring full transparency and equal opportunities. Our primary goal is to admit outstanding candidates and to conduct the recruitment in an objective, transparent manner, fully aligned with the principles of good academic practice.

a) the quality and availability of information and internal legal acts concerning the functioning of the SD

The recruitment is conducted in accordance with the "Admission rules" (ZR; Annex), adopted by the Senate of the URK. These principles are published on the SD's website. Candidates also have access to the SD Regulations (Annex) and the curricula, which are available on the SD's website. The Recruitment Committee (KR), appointed annually in June by the Rector, is responsible for organizing and overseeing the process. The KR is composed of academic staff representing disciplines present in the SD, as well as a representative of the Doctoral Students' Council. The composition of the KR is published on the SD's website (Annex).

b) the availability, clarity, and open nature of the recruitment principles for the SD, as well as the timeliness of their publication
Recruitment to the SD is open and accessible to candidates from both Poland and abroad. Its open nature is demonstrated by the admission of candidates from outside URK as well as from abroad (see the numbers below). If any changes to the ZR are introduced, they are announced to candidates no later than February of the given year, maintaining the required 5-month notice period. Admission is conducted as an open competition, announced annually in April by an ordinance of the Rector (Annex). Additionally, candidates may be admitted through competitions for research projects (e.g., NCN), in accordance with the established procedure (Annex). Information about these competitions is published on the websites of the faculty or discipline in which the project is carried out. Furthermore, the SD also admits beneficiaries of competitions under the ministry "Implementation Doctorate" (ID) and NAWA programmes. The primary criterion for admission to the SD is a high academic level, assessed during the recruitment procedure. After the recruitment process is completed, its results are publicly available. The number of admitted and non-admitted candidates, together with the applicable scoring, is published. Each candidate has the right to review the documentation related to their recruitment process. An administrative decision refusing admission to the SD may be appealed through a request for reconsideration of the case.

c) the procedure for conducting the competition referred to in Article 200(2) of the Act of 20 July 2018 – Law on Higher Education and Science

Each candidate is admitted to the SD through a competitive procedure. In the case of the open competition announced by the Rector, the process begins with the Rector's ordinance announcing the call for research topics for which recruitment will be conducted (Annex), published on the URK and SD websites between February and March each year. Research topics are submitted by heads of departments and assigned to the relevant scientific disciplines represented in the SD. After the list of topics is approved, the Rector issues another ordinance in April announcing the competition (Annex), which specifies the recruitment schedule (a date of the final qualification), the number of places available for candidates from Poland and from abroad (allocated to each discipline), as well as the method of submitting documents. An attachment to this ordinance contains the list of research topics accepted for the competition (Annex), divided by disciplines and distinguishing topics for domestic and foreign candidates. Candidates submit their documents electronically, and additional information facilitating this process is published on the SD's website. In May, the discipline councils appoint 3-person qualification panels for each discipline (one or two panels depending on the expected number of candidates). Only independent academic staff associated with a given discipline may serve on these panels. The chair of each panel becomes a member of the KR, appointed by the Rector. The qualification panels conduct the recruitment process on the designated final qualification day (September), in accordance with the rules described in the ZR (Annex). After interviewing the candidates, the panels prepare ranking lists for each discipline, distinguishing between domestic and international applicants. The KR reviews the ranking lists and, by resolution, establishes the final list of admitted and non-admitted candidates (Annex). International candidates are admitted by an administrative decision of the Rector, issued at the request of the KR. In the case of competitions for external research projects, the competitive procedure is carried out by a competition committee appointed by the project leader, in accordance with the rules of the project. The 3-person competition committee must include the Director of the SD or a person designated by them. After the procedure is completed, the competition committee submits a request to the KR for the candidate's admission to the SD. For beneficiaries of external programmes (e.g., ID, NAWA), admission to the SD is granted by a decision of the KR or, for international candidates, by an administrative decision of the Rector.

d) the manner in which the needs of persons with disabilities are taken into account during the recruitment process

In the recruitment process for our SD, the needs of persons with disabilities are taken into account in accordance with the provisions set out in the ZR (Annex). Support for candidates is provided under the rules specified in the University's Regulations on Support for Persons with Special Needs, and is ensured by the KR and the SD office. Candidates with disabilities are entitled to adjustments and services specified in detail in the ZR. The SD works closely with the University Office for Persons with Disabilities, ensuring that candidates receive the necessary organizational and informational support. Special procedures also apply to individuals with limitations related to exposure to harmful, burdensome, or hazardous factors. The website for candidates includes a list of such factors as well as a detailed description of the procedure to be followed when these must be considered during the recruitment process.

e) the method of verifying candidates' aptitude for conducting scientific research as part of the SD admission process
The basis for qualification is the presentation of a proposed solution to the research topic, the assessment of the candidate's prior scientific activity, and the evaluation of academic achievements obtained during previous studies (Annex). The presentation is evaluated on a scale of 0–7 points, scientific activity on a scale of 0–1.5 points, and prior educational achievements on a scale of 0–1.5 points. Candidate interviews are conducted online via Microsoft Teams. For international applicants, the interviews are held in English. During the interview, the candidate presents their research concept to the qualification panel, which assesses not only the substantive value of the presentation but also the course of the discussion. The evaluation covers both the candidate's knowledge and their aptitude for conducting scientific research. The recruitment process places particular emphasis on selecting candidates who, in addition to strong academic competence, demonstrate passion for science, ambition, courage in undertaking research challenges, and responsibility. In the assessment of scientific achievements, only published scientific papers or monographs are considered, as well as confirmed participation in a research project and verified conference contributions (oral presentations or posters). In the evaluation of prior educational achievements, the grade point average obtained during previous studies is taken into account.

f) the reliability of the measures undertaken by the institution to improve the recruitment process
After each recruitment, the KR conducts an analysis of its course, discussing the strengths and weaknesses. The conclusions from this analysis form the basis for potential modifications to the RP which apply in subsequent years. The electronic candidate registration system (IRK) is also subject to evaluation and possible improvement. Recruitment-related issues are regularly discussed during meetings between the Director of the SD and the discipline councils, and the proposals and recommendations submitted are taken into account in planning and implementing future recruitment processes. This also includes any comments from the academic community.

The admission process in the SD is an effective process, which from 2019 to 2025 enabled the admission of 187 students, including 131 from Poland and 56 from abroad. A total of 149 Rector's Scholarship holders, 15 beneficiaries of the ID programme, 20 students admitted to research projects, and 3 NAWA scholarship holders were enrolled. During the evaluation period (2019–2024), we admitted 160 students, including 112 from Poland and 48 from abroad, including 126 Rector's Scholarship holders, 14 beneficiaries of the ID programme, 17 students to research projects, and 3 from NAWA. The effectiveness of the recruitment process is demonstrated by the high scientific achievements of our students, the timely completion of education by the majority of them, and the very good results obtained in the proceedings for the award of the doctoral degree. In recent years, we have annually admitted 27–33 students, and in the coming years we plan to maintain these numbers.

5. Quality of scientific or artistic supervision and support for conducting scientific activities

The procedure for appointing supervisors is clearly defined in the regulations of the SD (Annex). The University body indicated in the Statute (the Discipline Council – RD), which is authorized to confer the doctoral degree in a given discipline, appoints a supervisor for the PhD Student within 3 months from the date of commencing education in the SD. The appointment is made upon the candidate's request, submitted to the SD office within 1 month from the start of education. The candidate indicates the person who may act as their supervisor. The request requires an opinion from the head of the department in which the research will be conducted. The request must include a justification in which the candidate outlines the proposed topic and aim of the dissertation, corresponding to the topic based on which they were admitted to the SD, as well as the outline and scope of the research problem, expected results, and their significance for the discipline. The proposed supervisor submits a declaration expressing their willingness to undertake supervision, along with a statement confirming that they meet the requirements to perform this function. The head of the department accepts the submitted proposal, and then, the Director of the SD submits the request for supervisor appointment to the Chair of the RD. Failure to submit the request within the deadline may constitute grounds for initiating the procedure to remove the candidate from the list of PhD students. If a student intends to pursue an interdisciplinary dissertation, 2 supervisors are appointed, each representing one of the disciplines.

The regulations of the SD define the requirements for supervisors, who must hold at least a postdoc degree or the title of professor and have academic achievements in the scientific areas related to the dissertation. If the proposed supervisor is employed abroad, they may not meet these requirements; in such cases, the RD must acknowledge that the person has significant achievements in the relevant field. Without justified cause, an academic teacher cannot refuse to undertake the role of supervisor. The regulations also specify who cannot serve as a supervisor, namely, a person who within the last 5 years has supervised 4 doctoral candidates who were removed from the list due to a negative IPB evaluation, or who supervised at least 2 individuals applying for the doctoral degree whose dissertations did not receive positive reviews, preventing their defense.

The supervisor participates in preparing the student's individual research plan (IPB), provides opinions on the selection of courses and plans for internships, and serves as a mentor in conducting research, preparing scientific publications, and writing the dissertation. The supervisor also supports the student in functioning within the academic community.

The regulations describe the procedure for appointing an auxiliary supervisor, which may be initiated after approval of the IPB. The request, submitted by the student to the SD office and accompanied by the supervisor's opinion, must include a justification for choosing an scientist who, in the candidate's view, can perform this role. After formal verification, the Director of the SD submits the request for appointment of the auxiliary supervisor to the Chair of the RD. The auxiliary supervisor must hold at least a doctoral degree.

The adopted solutions regarding the selection of supervisors ensure that students receive support from individuals with high academic and scientific competence, optimally matched to the research topic of the dissertation. These solutions foster the development of strong scientific potential arising from effective cooperation between the supervisor and the student.

The regulations also describe circumstances under which a supervisor may be changed, along with the procedures and consequences. In justified cases, particularly when issues prevent the implementation of the IPB or the preparation of the dissertation, the student may submit a request to the Director of the SD to change the supervisor or auxiliary supervisor, indicating a proposed replacement. In cases that make it impossible to continue supervision, the supervisor or auxiliary supervisor may resign from their function. The resignation, submitted to the Director, must include reasons and indicate an scientist with appropriate qualifications to take over supervision. After reviewing the case, the Director submits the request for supervisor change to the Chair of the RD. A new supervisor should be appointed within 1 month from the date of the request.

The SD conducts mandatory evaluation of scientific supervision (OON), according to the procedure described in the SD's Regulations (Annex). This evaluation is carried out parallel to the OŚ evaluation, but the 3-member committee consists only of URK staff. The student assesses the supervisor's engagement and identifies areas for improvement. Likewise, the supervisor evaluates the student's engagement. Introducing OON has proven highly beneficial, allowing early identification of any issues. Clarifying meetings with the Director of the SD, the discipline coordinator, and committee chairs, including corrective discussions, help improve supervisor–student relations. Conflicts between students and supervisors are addressed promptly, with an emphasis on resolving them amicably. When necessary, the Director meets with each party to resolve the issue.

Students with disabilities or who are parents are provided with support in implementing their educational program and IPB, as well as in preparing their dissertations. This is part of the broader support system at URK. They are guaranteed full participation in classes, and teaching materials as well as forms of exams are adapted to their needs. Access conditions to research infrastructure are also adjusted individually. These students receive additional support during OŚ and may obtain an extension of the dissertation submission deadline. URK operates an Accessibility and Support Office, which assists in adapting the educational process and teaching materials to the needs of persons with disabilities and special needs. Students can access free psychological consultations. Efforts are continually made to find optimal solutions to reduce barriers. Staff training is provided, and the project "Education Without Barriers – Modern Solutions for Accessibility at URK", co-funded by EU

funds, is being implemented.

We make every effort to ensure the highest quality of scientific supervision in the SD. We have established a transparent system for selecting supervisors, who must meet very high academic and scientific standards. We verify the quality of supervision both procedurally and continuously, responding to signals of potential issues. We have developed effective methods for resolving conflicts between PhD students and supervisors, and we implement measures to continuously improve the quality of scientific supervision.

6. Integrity of the mid-term evaluation process

The mid-term evaluation (OŚ) is carried out in accordance with the rules set out in the Regulations of the SD (§ 35–37; Annex), resulting from the Law 2.0. This part of the regulations concerns the “Regulations for the Mid-term Evaluation of Doctoral Candidates” (Annex), together with its attachments. The process is formalized, multi-stage, and includes both the formal verification of documentation and a substantive assessment of the doctoral student's progress. The procedure is strictly defined.

The OŚ concerns the implementation of the individual research plan (IPB) and is carried out at the turn of the 4th and 5th semester of education, starting from early September of the given year. Since the IPB was approved at the turn of June-July of the previous year, the evaluation covers a period of more than 12 months of IPB implementation. According to the regulations, it must be completed within three consecutive months. The Director of the SD is responsible for organizing the process, while the evaluation itself is carried out by independent committees appointed by the body indicated in the University Statute.

The doctoral student prepares a report on the implementation of the IPB and submits it in both electronic and paper form to the SD's Office by the 10th of September (4th semester). The report must also include the opinion of the supervisor or supervisors (in the case of interdisciplinary doctorate). It may also contain justification for proposed modifications of the IPB, including changes to the schedule for completing the doctoral dissertation. The report must include a copy of the IPB and documents confirming activities and achievements listed in the IPB, in particular: first pages of published papers, decisions on grant awards, patent application numbers, and certificates of active participation in conferences specifying the form of presentation and the title of the presented work. The report is prepared in Polish or English using the required form available on the SD website (Annex). After formal verification, the Director of the SD submits a request to the chair of the appropriate body to carry out the OŚ within 14 days of receiving the report. Failure to submit the report within the prescribed deadline may constitute grounds for initiating a procedure to remove the doctoral student from the register.

The evaluating committee consists of three members, at least one of whom is employed outside the University and holds at least the degree of habilitated doctor or the title of professor in the discipline relevant to the doctoral dissertation. A member of the committee may also be an employee of a foreign university or research institution with significant achievements in the field, although such a case has not occurred in the history of our SD. Committee members are selected by discipline councils. They are recognized researchers from other universities or research institutes. To ensure high quality of doctoral dissertations, the Doctoral School authorities encourage the selection of outstanding researchers. The mode of operation of the committee is specified in the regulations presented in Annex. This evaluation procedure minimizes conflicts of interest and reinforces the impartiality of the evaluation. The committee is appointed by the appropriate discipline council upon the request of the Director of the SD within one month of receiving the application.

The OŚ consists of two stages. In the first stage, the Committee analyses the doctoral student's report on the implementation of the IPB. In the second stage, an interview with the student is conducted. The interview may be held in Polish or English, also in remote mode. The doctoral student prepares a 20-minute presentation on the status of IPB implementation. Then each committee member asks at least one question concerning the content of the presentation or the implementation of the IPB, and these questions are recorded in the protocol (Annex).

The evaluation ends with a positive or negative result, and the decision, together with justification, is public. The committee prepares a protocol signed by all members, and the result is entered into the POL-on system. A negative assessment constitutes grounds for initiating a procedure to remove the doctoral student from the register.

The Regulations also provide an appeal procedure, which is an important element ensuring the reliability of the process. The doctoral student may submit an appeal against a negative evaluation to the Director of the SD within seven days of the publication of the results. At the Director's request, the Rector appoints a three-person appeal committee, of whom at least two members are not employed at the University and at least one holds the degree of habilitated doctor or the title of professor in the relevant discipline. In the history of the SD to date, we have had one such appeal, which was resolved positively.

Parallel to the OŚ, an evaluation of scientific supervision is conducted. This evaluation is carried out by a three-person committee, without the participation of a person from outside the University. Its procedure has been described in the section related to the evaluation of scientific supervision quality.

Regardless of the OŚ, the regulations of SD also include systematic assessment of progress in the implementation of the IPB. Each semester (3-times), the student's progress in implementation of the IPB and preparation of the dissertation is evaluated. This evaluation is based on a report submitted by the student and reviewed by the supervisor. The detailed procedure is described in the “Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan” (Annex).

All the described procedures, in accordance with university documents, are based on clearly defined deadlines, formal obligations of doctoral students and supervisors, and a transparent, commission-based form of evaluation, which ensures the reliability and compliance of the process with applicable regulations.

7. Internationalization

Internationalization is one of the key elements of our SD's mission and is implemented on multiple levels: through international research internships undertaken by academic staff and PhD students, participation in international scientific conferences, active recruitment and training of doctoral candidates from abroad, as well as education offered within the Eurohort program.

a) the level of internationalization of the staff, including scientific mobility and engagement in the international academic environment of scholars involved in the education provided by the SD

Academic staff involved in the education maintain a very high level of international engagement, which includes participation in international research projects, publishing in leading scientific journals, active attendance at international scientific conferences, and undertaking research internships in renowned research centers worldwide. A detailed profile of the staff in the context of international cooperation is presented in Annex related to the academic staff. The URK supports the international research activity of its staff through financial incentives for publishing in good journals, a scholarship system promoting scientific mobility, and encouragement to participate in international research programs and mobility schemes such as Erasmus+. The vast majority of supervisors and academic teachers conducting courses in the SD have completed research internships at foreign research institutions. They also conduct joint research with universities and research institutes abroad, including in the USA, Canada, Israel, the United Kingdom, Germany, the Netherlands, Belgium, France, Switzerland, Slovakia, and the Czech Republic. We are working to increase the involvement of foreign researchers in the education of our PhD students, in particular, we aim to host visiting professors more frequently. Our long-term goal is to introduce a system of joint degree awards (joint PhD, dual PhD degree), building on URK's participation in a network of European universities.

b) the level of internationalization of the educational process in the SD and of the scientific activity of PhD students, particularly that conducted on the basis of IPB, including the scientific mobility of PhD students

Internationalization of doctoral education is implemented in multiple ways. We offer two alternative educational paths, the standard and the Eurohort program, conducted in Polish or English. Courses taught in English are attended by international doctoral candidates. Since the establishment of the DS, we have admitted more than 50 candidates from Africa (Ethiopia, Nigeria, Egypt, Algeria, Angola), Asia (India, Vietnam, Pakistan, the Philippines, Sri Lanka, Iran, Turkey, Kazakhstan, Mongolia), as well as Europe (Italy, Croatia, Ukraine, Belarus) and South America (Ecuador). The Eurohort program is delivered in collaboration between URK and Mendel University in Brno (Czech Republic) in the discipline of agriculture and horticulture. Each year, 1–2 students from URK participate in this program, with part of the coursework conducted alternately in Brno and Krakow. Students carry out their IPBs in cooperation with foreign research institutions (e.g. Belgium, Switzerland, and Canada), participating in joint research and undertaking research internships. We encourage students to engage in scientific mobility, offering not only the support of supervisors' international contacts but also participation in mobility programs such as Erasmus+. Although foreign research internships are not mandatory, a significant proportion of PhD students declare such mobility in their IPBs and successfully complete them. As part of the course "Applying for Research Funding," we inform and encourage students to apply for international research projects (e.g., Horizon Europe, European Research Council). To ensure the high scientific quality of doctoral dissertations, we promote publishing in reputable international journals, which candidates declare in their IPBs. The Main Library provides training on the use of scientific databases and on publishing research results. Students are also encouraged to participate in international conferences held both in Poland and abroad. One of the international events is the annual doctoral conference organized by the Doctoral Students' Council.

c) the ways in which the needs of international doctoral candidates are addressed in the educational process of the SD

Recruiting foreign candidates is one of the most important aspects of our SD's internationalization efforts. Through a transparent admission process, we seek talented candidates from Africa, Asia, and Europe, offering them the opportunity to receive high-quality education and begin their scientific careers. As mentioned above, we have admitted 56 international candidates, who not only pursue their education and research projects but also constitute an important part of our academic community, contributing both scientifically and culturally. Interaction with Polish students and URK academic staff is beneficial not only for the foreign candidates but also for the Polish side. Recruitment is carried out through an open competition, with all announcements and admission rules made available in English on the SD's website. In attracting international candidates, we also make use of URK's cooperation agreements with partner universities (e.g., in Ethiopia and Nigeria). Recruitment, education, and scientific activities of foreign students are conducted in English. All documents related to IPB, reporting of scientific activity, and its evaluation, including the mid-term evaluation, are available in English, and all evaluations are conducted in English. International students are accommodated in student dormitories, where they interact with Polish students. We provide ongoing support in social and day-to-day matters as well as in emergency situations. We also offer active assistance with formal procedures (e.g., residence permits). We organize Polish language courses. We encourage the inclusion of international PhD students in the activities of the Doctoral Students' Council. We would like to increase the involvement of the Council in matters concerning international students, as well as enhance the integration of Polish and foreign doctoral candidates.

d) methods of increasing the international visibility of the SD and their effectiveness

To enhance the international visibility of SD, we maintain an English-language website, and we plan to expand our presence on social media. The effectiveness of our current efforts is reflected in the high number of international applicants interested in

pursuing their education at our School. Each year, our students invite peers from neighboring countries (Romania, Slovakia, the Czech Republic, Ukraine) to participate in an international doctoral conference. As a result, 5–10 international participants attend this conference annually. In the coming years, we intend to intensify our efforts to further increase the SD's international recognition, particularly through greater involvement of our students in European scientific programs and by promoting joint PhD and dual PhD degree schemes. Since the first group of PhD completed their studies only in 2023, we have not yet launched formal institutional cooperation with alumni. We plan to establish an alumni club, with particular attention to international graduates. Those who have completed their doctorate receive support in applying for postdoctoral positions, including reference letters and consultations regarding potential host institutions. The effectiveness of our internationalization efforts is further demonstrated by the strong publication activity of our doctorates, their participation in international research internships, and their active involvement in scientific conferences. We are particularly proud of the success in securing competitive research grants (e.g. grants of NCN).

8. Effectiveness of doctoral education

Percentage of individuals who obtained a doctoral degree	Doctoral students who applied for initiation of proceedings for the award of a doctoral degree	Doctoral students who were awarded a doctoral degree	Doctoral students who were denied the award of a doctoral degree
in the number of doctoral students who completed their education at the doctoral school during the evaluation period	87 %	57 %	0 %
in the total number of doctoral students who completed their education at the doctoral school	69 %	45 %	0 %

As of 30-09-2025, of the individuals admitted to the SD in the years 2019–2021 (68 persons), 13 have left, 55 remain. A total of 28 students completed their education within the timeframe specified by the curriculum and the IPB, which represents 51% of the cohort. Among the 2019 and 2020 cohorts, 89% and 65% respectively completed their education, which we consider to be very good results. We have not had any case of failure to complete study on time, including the permissible 2-year extension. Most students use the possibility of extending their study in order to publish scientific papers.

Among the students who completed their study during the evaluation period, 87% initiated the procedure for awarding the doctoral degree, and 57% were awarded that degree. We consider this result good. We are particularly satisfied with the very good outcomes of doctoral thesis defences.

The scientific activity of students is very good, as evidenced by their highly scored scientific publications and participation in conferences, often resulting in awards for the best presentation/poster. Several students are co-authors of patent applications.

Training in the SD is evaluated by doctorates. In particular, the quality of supervisory support (OON), described in detail earlier in this report, is assessed. In addition, students evaluate the teaching of courses by completing anonymous surveys in the USOS system. The results of these assessments are analysed in the quality assurance report and presented to the SD Council. Any critical feedback is analysed and considered in the selection of course teachers.

The SD does not yet conduct formal monitoring of career paths after completion of study. All graduates of the SD to date have applied to initiate the procedure for awarding the doctoral degree before the discipline councils represented at URK. Several individuals have taken up scientific-research positions at URK. This information does not yet have an impact on the functioning of the SD.

1. veterinary science

Achievement Description

Scientific discipline: veterinary science

The academic staff and doctoral students in the discipline of veterinary science conduct research on animal health and diseases, laboratory diagnostics, pathophysiology, veterinary microbiology and immunology, pharmacology and toxicology, infectious and parasitic diseases, as well as animal welfare. Their work also addresses issues related to zoonoses, the safety of food of animal origin, animal disease epidemiology, and public health threats at the environment–animal–human interface (One Health).

This is one of the essential and dynamically developing scientific disciplines at URK, with increasing national and international recognition. We anticipate growing interest in doctoral education within this discipline, which is crucial for strengthening future academic staff capacity.

The discipline offers doctoral students access to modern, well-equipped diagnostic and specialist laboratories, microbiological and molecular laboratories, as well as newly commissioned, state-of-the-art clinical facilities and infrastructure enabling experimental animal research. Extensive field facilities and cooperation with veterinary clinics, experimental farms, and veterinary administration units allow research to be carried out in practical and environmental conditions.

It is the youngest discipline in our Doctoral School. To date, three doctoral students have been admitted (including one

funded through an NCN research project). So far, no scientific publications have been produced by doctoral students within this discipline.

2. environmental engineering, mining and energy

Achievement Description

The academic staff and doctoral students in the discipline of environmental engineering, mining, and energy conduct research on environmental protection and shaping, air quality and indoor climate, water and wastewater management, renewable energy sources, energy-efficient technologies, life cycle assessment (LCA), waste management, and the environmental impact of agricultural and industrial activities. In the area of energy research, work focuses on energy efficiency, energy recovery technologies, heating and ventilation systems, and innovative solutions aimed at reducing pollutant emissions. This discipline is strongly connected with climate challenges and the energy transition in agriculture and the municipal sector.

Interest in this discipline has been steadily increasing from year to year, both among candidates applying to the Doctoral School and among academic staff submitting research topics for supervision.

Implementation doctorates are also carried out within this discipline; currently, three such projects are being conducted in cooperation with companies and socio-economic partners. These research projects focus, among others, on improving the energy efficiency of agricultural and municipal facilities, optimizing heating and ventilation systems, and applying modern environmental technologies in engineering practice.

The discipline has a strong international dimension, particularly through cooperation with doctoral students from Vietnam completing projects within NAWA programmes. These students successfully complete their studies and have obtained their doctoral degrees (e.g., Dr Eng. Phan C. N.), presenting a very high scientific level and a significant publication record. The scientific achievements of doctoral students in this discipline are steadily growing. They publish in peer-reviewed journals, including those covering renewable energy, environmental systems, process efficiency analysis, low-emission technologies, and climate engineering. Doctoral students actively apply for external funding and participate in research projects, often carried out in collaboration with industry and environmental laboratories.

PhD students in this discipline have access to modern environmental analysis laboratories, energy research stations, equipment for air quality, indoor climate, and emission measurements, as well as infrastructure used in field and implementation projects. This discipline has strong application potential and is highly relevant to the development of modern energy systems, low-emission technologies, and environmental protection.

Selected publications of doctoral students:

1. Skuta I., Kołodziej B., Filipek-Mazur B., i Antonkiewicz J., *The Use of Carbonate-Clay Flour, Sewage Sludge and Waste Sulfate Sulfur as Fertilizer Agents*, „Resources”, 2025, t.14, s. 1–18.
2. Nguyen Thi Ngoc T., Policht-Latawiec A., Dąbrowska J., i Michałowska K., *Current challenges, methods, and strategies for reducing the transfer of nonpoint source pollution from agricultural areas to surface water*, „Journal of Water and Land Development”, 2025, s. 187–205.
3. Operacz A., Zachora-Buławska A., Gonek Z., Tomaszewska B., Bielec B., Operacz T., i Bundschuh J., *Stability of geothermal waters parameters as a major factor guaranteeing the possibility of its use and discharge into the environment*, „Water Resources and Industry”, 2024, t.31, s. 1–12.
4. de Carvalho M., Ciarkowska K., i Miechówka A., *Storage of persistent organic matter in temperate gypsum soils – Relevance of the parent material and vegetation cover*, „Geoderma”, 2023, t.435, s. 1–12.
5. Phan C.N., Strużyński A., Kowalik T., i Hoang V.P., *Assessment the livestock wastewater treatment efficiency of the anaerobic digester combined with the biological pond in Nam Anh, Nghe An, Vietnam*, „Acta Scientiarum Polonorum Formatio Circumiectus”, 2022, s. 3–16.

3. biological sciences

Achievement Description

Scientific discipline: biological Sciences

It is one of the youngest disciplines in our SD. The publication output of doctoral students is still rather limited. The discipline includes academic staff active in the areas of the biological foundations of plant breeding and cultivation, animal breeding and husbandry (including apiculture), as well as microbiology. Their scientific research employs methods typical of basic research.

We anticipate greater engagement of the staff in attracting new doctoral students.

Selected publications of doctoral students:

1. Raczynska A., Leszczyńska T., Skotnicki P., i Koronowicz A., *The Impact of Immunomodulatory Components Used in Clinical Nutrition—A Narrative Review*, „Nutrients”, 2025, t.17, s. 1–24.
2. Ahmar S., Shafique M.S., Rapacz M., i Pocięcha E., *Elucidating the role of brassinosteroid signaling genes and their promoters in Arabidopsis revealed regulatory mechanisms in plant development and responses to different abiotic stresses*, „BMC Plant Biology”, 2025, t.25, s. 1–21.

4. forestry

Achievement Description

Scientific discipline: forestry

It is one of the best scientific disciplines at URK, receiving the highest grade A+ in the most recent parametric evaluation. The academic staff and doctoral students in the discipline of Forest Sciences conduct research in forest ecology, silviculture and forest protection, forest utilization, wood resources management, wildlife management, and the functioning of forest ecosystems. Their research includes, among others, stand dynamics, the impact of climate change on forest ecosystems, biodiversity, protection against pests and tree diseases, game management, as well as modern methods of environmental monitoring and sustainable forest resource management.

This discipline is one of the most important at URK in terms of its scientific achievements and long-standing academic tradition, strongly rooted in the activities of the Faculty of Forestry. It has well-equipped specialist laboratories and extensive field infrastructure, including experimental forests and research sites (e.g., the Krynica Forest Experimental Station), which enable the implementation of both basic and applied research. Doctoral students have the opportunity to conduct research in cooperation with the State Forests and other institutions involved in forest management and nature conservation, which significantly enhances the developmental potential and practical relevance of their work.

The publication output in this discipline is excellent. Doctoral students publish in leading scientific journals (140- and 200-point journals). They apply for external funding and are successful in competitive calls (e.g., NCN). In this discipline, doctoral students complete their education at the Doctoral School on time. After obtaining the doctoral degree, graduates find employment at URK (e.g., Dr Karolina Szlachta and Dr Dawid Kupka). Doctoral students in this discipline receive MNiSW scholarships for outstanding scientific achievements (e.g., Izabela Fedyn and Fabian Przepióra). Among the graduates are doctoral students from Africa (Ethiopia, Nigeria) and Asia (Pakistan, Philippines), and the remarkable publication achievements of some doctoral candidates from Africa deserve particular recognition.

Selected publications of doctoral students:

1. Kupka D., Banach J., Oliwa J., Staszczak-Szlachta K., i Gruba P., *Contrasting responses of Norway spruce (Picea abies (L.) H.Karst) and European beech (Fagus sylvatica L.) seedlings to warming in the Western Carpathians: growth, root and leaf traits, physiology*, „Ecological Indicators”, 2025, t.180, s. 1–15.
2. Misebo A.M., Mena M.M., Anjulo A., i Pietrzykowski M., *The Effects of Fanya Juu Terraces on Soil Physicochemical Properties in the Context of Sustainable Crop Production and Erosion Control in Southern Ethiopia*, „Land Degradation & Development”, 2025, t.36, s. 2928–2939.
3. Ryszczysińska S., Gumulak-Wołoszyn N., Urbaniak M., Stępień Ł., Bryła M., Twarużek M., i Waśkiewicz A., *Inhibitory Effect of Sorbus aucuparia Extracts on the Fusarium proliferatum and F. culmorum Growth and Mycotoxin Biosynthesis*, „Molecules”, 2024, t.29, s. 1–15.
4. Fedyń I., Przepióra F., Sobociński W., Wyka J., i Ciach M., *Beyond beaver wetlands: The engineering activities of a semi-aquatic mammal mediate the species richness and abundance of terrestrial birds wintering in a temperate forest*, „Forest Ecology and Management”, 2023, t.529, s. 1–9.
5. Przepióra F., i Ciach M., *Tree microhabitats in natural temperate riparian forests: An ultra-rich biological complex in a globally vanishing habitat*, „Science of the Total Environment”, 2022, t.803, s. 1–14.

5. animal science and fisheries

Achievement Description

Scientific discipline: animal science and fisheries

The academic staff and doctoral students in the discipline of Animal Science and Fisheries conduct research on animal physiology; the biological foundations of breeding and husbandry of farm animals, fish, companion animals, and wildlife. Their research also covers animal nutrition, animal hygiene, reproductive biotechnology, genetics and selection, parasitology, animal welfare, as well as issues related to biodiversity conservation and sustainable management of animal populations. In the area of fisheries, research focuses on fish rearing technologies, water quality, aquaculture, and the assessment of environmental factors affecting fish health.

It is one of the largest and most scientifically active disciplines at URK, characterized by substantial research achievements, extensive laboratory infrastructure, and access to livestock and fish ponds, which enables both basic and applied research. Two implementation doctorates are being carried out in this discipline.

The publication output of doctoral students in this discipline is very strong. They publish in leading scientific journals, including high-impact 140- and 200-point journals. They actively apply for external funding and participate in research projects carried out both in Poland and abroad.

Doctoral students in this discipline complete their education at the Doctoral School on time. After obtaining their doctoral degree, many graduates secure employment at the URK, as exemplified by Dr Zuzanna Flis, who continues her academic career within our University.

Doctoral students also achieve notable success in the scientific community. They receive awards at national and international conferences; for example, Muhammed Kabiru Baba has been recognized for his research presentations.

Thanks to the strong connection between basic research and practical livestock and aquaculture applications, the discipline of Animal Science and Fisheries plays an important role in the development of agricultural sciences at URK. Its interdisciplinary nature and the high quality of research attract both domestic and international candidates, while cooperation with industry and research institutions further enhances the applied potential of ongoing projects.

Selected publications of doctoral students:

1. **Motyka D.**, Jasielczuk I., Pokorska J., Grzegorzczak J., Szmatoła T., Kowalski Z., i Gurgul A., *Genetic and physiological influences on the rumen microbiome and metabolic status in Holstein cows*, „Journal of Dairy Science”, 2025, t.108, s. 10869–10887.
2. **Frydrych K.**, Wolak D., Sowa A., i Hrabia A., *Tissue regression-related changes in connexin 43 and zonula occludens 1 gene and protein expression in the hen oviduct*, „Theriogenology”, 2025, t.242, s. 1–15.
3. **Sawicki S.**, Gurgul A., **Gabrys J.**, Kij-Mitka B., Bochenek M., Karnas E., Podstawski Z., Długosz B., i Bugno-Poniewierska M., *Extracellular Vesicles Obtained from Equine Mesenchymal Stem Cells Isolated from Adipose Tissue Improve Selected Parameters of Stallion Semen After Cryopreservation*, „Annals of Animal Science”, 2025, t.25, s. 189–200.
4. **Świerk S.**, Przybyło M., Flaga J., Szczepanik K., Białek W., Flieger P., i Górka P., *Effect of butyrate sources in a high-concentrate diet on rumen structure and function in growing rams*, „Animal”, 2024, t.18, s. 1–14.
5. **Gabrys J.**, Kij-Mitka B., Gurgul A., Szmatoła T., Kochan J., Karnas E., i Bugno-Poniewierska M., *Extracellular vesicles from equine follicular fluid support cumulus expansion and alter cumulus cells' transcriptome and viability*, „Journal of Equine Veterinary Science”, 2023, t.125, s. 1–1.

6. civil engineering and transport

Achievement Description

Scientific discipline: civil engineering, geodesy and transport

The academic staff and doctoral students in the discipline of civil engineering, geodesy and transport conduct research on modern geodetic methods, remote sensing, photogrammetry, spatial modelling, geographic information systems (GIS), spatial data analysis, as well as issues related to cartography and spatial geometry. Part of the research also focuses on the application of geodesy in agriculture, environmental protection, and spatial management, placing this discipline within the broader context of the development of modern measurement technologies in the natural and technical sciences. It is one of the smallest scientific disciplines at URK in terms of the number of staff and doctoral students, yet its importance for modern agriculture, spatial management, and technical infrastructure is considerable. The discipline is characterized by a high development potential and a growing demand for specialists in the areas of geodesy and spatial information systems.

Although the discipline currently has only a small number of doctoral students, their activity is steadily increasing. The research team has obtained an implementation doctorate project (Łukasz Pólichłópek), which highlights the practical nature of the research conducted and its relevance to the socio-economic environment.

We anticipate further development and increased activity of this important and forward-looking discipline in the coming years, both in terms of recruiting new doctoral students and expanding its research agenda.

Selected publications of doctoral students:

1. **Bożek P.**, i **Frosik M.**, *New technologies in real estate market analysis*, „Geomatics, Landmanagement and Landscape”, 2023, s. 65–74.
2. **Bitner A.**, i **Frosik M.**, *Real estate valuation algorithm for large local markets*, „Advances in Geodesy and Geoinformation”, 2022, t.71, s. 1–9.
3. **Frosik M.**, *Undeveloped non-investment land properties versus designated for single-family housing, as illustrated with the example of the Niepołomice municipality*, „Geomatics, Landmanagement and Landscape”, 2022, s. 19–26.
4. **Bitner-Fiałkowska A.**, Król K., **Frosik M.**, i Furczoń M., *Ecological Considerations in Real Estate Valuation*, „Journal of Ecological Engineering”, 2020, t.21, s. 47–55.

7. mechanical engineering

Achievement Description

Scientific discipline: mechanical engineering

The academic staff and doctoral students in the discipline of mechanical engineering conduct research on the design, construction, and operation of machinery and equipment used in agriculture, forestry, and the food sector, as well as on the analysis of technical processes and the implementation of modern engineering technologies. Their work covers areas such as mechanics and strength of materials, production engineering, automation and robotics of technological processes, renewable energy, biomass processing, environmental engineering, and precision agriculture systems. This discipline is strongly linked to the development of modern technologies for the agricultural and forestry sectors and to innovative technical solutions for the broader economy. Particular attention should be paid to the growing focus on biomass processing.

The publication output of doctoral students in this discipline is good and continues to improve. Each year, interest among academic staff in supervising doctoral research increases, which is reflected in the rising number of research topics submitted to the internal calls. Doctoral students publish in peer-reviewed scientific journals and participate in research projects related to energy efficiency, machine design, biometrics, process modelling, and the use of renewable energy sources. They apply for external funding and are involved in research and development projects, including those conducted in cooperation with industry.

Doctoral students in this discipline complete their education at the Doctoral School on time. Mechanical Engineering also attracts international candidates (e.g., from Ethiopia), and doctoral training often has an interdisciplinary character. Research projects combine mechanical engineering with food technology, precision agriculture, environmental engineering, or forest sciences. Doctoral students have access to modern laboratory infrastructure, research stations, equipment for strength testing, computer simulation facilities, and prototyping tools. This discipline has significant application potential and plays an important role in advancing innovation and modernizing contemporary agriculture and the forestry sector.

Selected publications of doctoral students:

1. **Jembere A.L.**, i Jakubowski T., *Simultaneous optimization approach for UV-C radiator to enhance mechanical properties of semi-finished potato tuber (Innovator) for extended storage period*, „Food and Bioproducts Processing”, 2025, t.149, s. 36–48.
 2. **Wójcik A.**, **Kopeć-Jarosz A.**, i Gąska A., *The importance of thermal influences in the friction process of lignocellulosic granular materials*, „Powder Technology”, 2025, t.452, s. 1–13.
 3. **Famielec S.**, **Malinowski M.**, **Tomaszek K.**, **Wolny-Koładka K.**, i **Krilek J.**, *The effect of biological methods for MSW treatment on the physicochemical, microbiological and phytotoxic properties of used biofilter bed media*, „Waste Management”, 2024, t.175, s. 276–285.
 4. **Bieszczad A.**, **Popardowski E.**, **Lubińska W.**, **Gliniak M.**, **Nawalany G.**, i **Sokołowski P.**, *Possibility of Using Waste Materials as Substitutes for Gravel or Water in Concrete Mix*, „Materials”, 2023, t.16, s. 1–18.
- Kurpaska S.**, **Kielbasa P.**, **Sobol Z.**, **Tabor S.**, **Gliniak M.**, i **Bojdo K.**, *Analysis of air flow resistance through a porous stone bed*, „Biosystems Engineering”, 2020, t.198, s. 323–337.

8. civil engineering, geodesy and transport

Achievement Description

Scientific discipline: civil engineering, geodesy and transport

The academic staff and doctoral students in the discipline of civil engineering, geodesy and transport conduct research on modern geodetic methods, remote sensing, photogrammetry, spatial modelling, geographic information systems (GIS), spatial data analysis, as well as issues related to cartography and spatial geometry. Part of the research also focuses on the application of geodesy in agriculture, environmental protection, and spatial management, placing this discipline within the broader context of the development of modern measurement technologies in the natural and technical sciences. It is one of the smallest scientific disciplines at URK in terms of the number of staff and doctoral students, yet its importance for modern agriculture, spatial management, and technical infrastructure is considerable. The discipline is characterized by a high development potential and a growing demand for specialists in the areas of geodesy and spatial information systems.

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We anticipate further development and increased activity of this important and forward-looking discipline in the coming years, both in terms of recruiting new doctoral students and expanding its research agenda.

Selected publications of doctoral students:

1. **Bożek P.**, i **Frosik M.**, *New technologies in real estate market analysis*, „Geomatics, Landmanagement and Landscape”, 2023, s. 65–74.
2. **Bitner A.**, i **Frosik M.**, *Real estate valuation algorithm for large local markets*, „Advances in Geodesy and Geoinformation”, 2022, t.71, s. 1–9.
3. **Frosik M.**, *Undeveloped non-investment land properties versus designated for single-family housing, as illustrated with the example of the Niepołomice municipality*, „Geomatics, Landmanagement and Landscape”, 2022, s. 19–26.
4. **Bitner-Fiałkowska A.**, **Król K.**, **Frosik M.**, i **Furczoń M.**, *Ecological Considerations in Real Estate Valuation*, „Journal of Ecological Engineering”, 2020, t.21, s. 47–55.

9. food and nutrition technology

Achievement Description

Scientific discipline: food science and nutrition

The academic staff and doctoral students in the discipline of food science and nutrition conduct research on food quality and safety, physicochemical properties of food raw materials, food processing technologies, food biotechnology, food chemistry, dietetics, sensory analysis, and innovative methods of food preservation, storage, and fortification. Their research includes both fundamental and applied aspects, addressing current challenges related to public health, functional foods, sustainable production, and food quality.

It is one of the best and most active scientific disciplines at URK, distinguished by its strong research potential and its high level of engagement in the development of the SD. This discipline maintains close and exemplary cooperation with the SD

authorities in the area of recruitment as well as in the processes of modifying training and admission rules, actively supporting the qualitative development of doctoral education.

Food science and nutrition is the discipline with the largest number of doctoral students, including a significant group of international students from countries such as Ethiopia, India, and Sri Lanka. Doctoral education often has an interdisciplinary character; numerous doctoral projects combine food science with agriculture and horticulture. The discipline also carries out implementation doctorates, highlighting its strong connections with industry and innovation-driven sectors.

The discipline places a strong emphasis on development through active doctoral training and the expansion of academic cooperation. The SD also attracts candidates from other universities, including the Jagiellonian University, demonstrating the growing scientific reputation and attractiveness of research conducted in this field.

The publication output of doctoral students is of very high quality. Their papers are most often published in leading journals, including 140- and 200-point journals. Doctoral students are increasingly active in research projects, and the external funding they obtain supports innovative studies aligned with global scientific trends.

The discipline of food science and nutrition has access to modern laboratory infrastructure, including laboratories for chemical, sensory, microbiological, and biotechnological analyses, enabling interdisciplinary research across a wide range of topics. Its scientific potential, size, internationalization, and research quality make it one of the key and most dynamically developing disciplines at the URK.

Selected publications of doctoral students:

1. **Gedif H.**, Jamróz E., Kasprzak M., **Rupasinghe H.P.V.**, i Tkaczewska J., *Protein hydrolysate of black seed (*Nigella sativa* L.) incorporated furcellaran-based double-layer emulsion coating extends shelf-life of carp fish products*, „Food and Bioproducts Processing”, 2025, t.154, s. 21–32.
2. **Tadesse E.**, Kulawik P., Szymkowiak A., i Šimat V., *Application of UV-A and blue light emitting diodes within the range of 320-480 nm on quality and shelf-life extension of food products*, „Food and Bioproducts Processing”, 2024, t.148, s. 436–455.
3. Kulawik P., Jamróz E., Janik M., Tkaczewska J., Krzyściak P., Skóra M., Guzik P., Milosavljević V., i **Wonbebo W.T.**, *Antimicrobial and antioxidant properties of chitosan-furcellaran-gelatin hydrolysate coatings enhanced with bioactive peptides*, „Food Control”, 2023, t.153, s. 1–9.
4. Hrabia O., Ditrych M., Ciosek A., **Fulara K.**, Andersen M.L., i Poreda A., *Effect of dry hopping on the oxidative stability of beer*, „Food Chemistry”, 2022, t.394, s. 1–8.
5. **Kwaśny D.**, Borczak B., Sikora M., i Kapusta-Duch J., *Preliminary Study on the Influence of the Polyphenols of Different Groups on the Digestibility of Wheat Starch, Measured by the Content of Resistant Starch*, „Applied Sciences-Basel”, 2022, t.12, s. 1–10.

10. economics and finance

Achievement Description

Scientific discipline: economics and finance

Academic staff and doctoral students in the discipline of economics and finance conduct research on market functioning, economic policy, public and corporate finance, economic analysis, risk management, agricultural economics, regional development, accounting, and sustainable resource management. The topics addressed within the discipline reflect current challenges of the modern economy, including the energy transition, digitalization, globalization, financial management, and the economic aspects of agricultural production.

It is the only discipline within the SD of URK belonging to the field of social sciences, which gives it a special role within the interdisciplinary profile of a university with a natural and technical orientation. As such, economics and finance provide an important complement to research in agriculture, food technology, engineering, and environmental sciences.

At present, the discipline has a small number of doctoral students. Among them is a doctoral candidate from Kazakhstan, which highlights its international dimension and the interest of foreign applicants.

The publication output in this discipline is still modest, but it is gradually increasing along with the growing scientific and project activity of the doctoral students.

Economics and finance constitute an important discipline within the Faculty of Agriculture and Economics at URK, closely connected with research in agricultural economics, rural development, and the finances of the agri-food sector. We anticipate increased activity in this discipline in the coming years, both in terms of attracting new doctoral students and expanding research and international cooperation.

Selected publications of doctoral students:

1. Domagalska-Grędyś M., Sagan A., i **Piecuch K.**, *Identification and direction of changes in work-life balance dimensions in Visegrad Group countries*, „Entrepreneurial Business and Economics Review”, 2025, t.13, s. 191–210.
2. Domagalska-Grędyś M., Niewiadomski M., i **Piecuch K.**, *Aspects of Support and Types of Work-Life Balance Among Employees from Rural Areas in Poland*, „Sustainability”, 2025, t.17, s. 1–23.

11. agriculture and horticulture

Achievement Description

Scientific discipline: agriculture and horticulture

The academic staff and doctoral students in the discipline of agriculture and Horticulture conduct research in plant physiology; the biological foundations of breeding and cultivation of agricultural and horticultural crops; microbiology; agricultural chemistry and fertilization; soil science; plant protection methods; agricultural environmental protection; as well as the cultivation of agricultural and horticultural plants. The research carried out in this discipline covers both fundamental and applied aspects, addressing current challenges related to climate change, sustainable plant production, natural resource management, and food security.

It is the largest scientific discipline at URK in terms of the number of academic staff and doctoral students, and it constitutes a key pillar of research and education in the field of agricultural and horticultural sciences.

The publication output of doctoral students in this discipline is very strong. They publish in leading scientific journals, including 140- and 200-point journals. They actively apply for external funding and secure resources for their research, including grants from the National Science Centre (NCN). The high quality of research contributes to doctoral students completing their education at the Doctoral School on time.

Agriculture and Horticulture is also a discipline frequently chosen by international applicants; several doctoral students from countries such as India and Pakistan have completed or are completing their studies within this field. Doctoral training often has an interdisciplinary character, enabling innovative research that combines plant sciences with food technology and nutrition or with animal science and fisheries.

Some doctoral students pursue their education within the international Eurohort programme, which further enhances research quality, internationalization, and the competencies of young researchers.

The discipline of Agriculture and Horticulture is supported by extensive research infrastructure, including analytical laboratories, phytotrons, greenhouses, experimental stations, and field research plots, enabling studies under both controlled and field conditions. Its scientific potential, long-standing tradition, and strong publication activity make it one of the key disciplines at URK, attracting young researchers as well as project partners from Poland and abroad.

Selected publications of doctoral students:

1. Rutkowski M., Makowski W., Krzemińska-Fiedorowicz L., Khachatryan K., Kalisz A., Malina D., Chwastowski J., et al., *Silver Nanoparticles Embedded in Sodium Alginate: Antibacterial Efficacy and Effects on Red Cabbage Seedling Performance*, „Agronomy”, 2025, t.15, s. 1–17.
2. Stankiewicz K., Boroń P., Prajsnar J., i Lenart-Boroń A., *Is our winter experience safe? Micropollutant risks for artificial snowing*, „Science of the Total Environment”, 2025, t.968, s. 1–12.
3. Rapacz M., Jurczyk B., Bani I., i Wójcik-Jagła M., *Phenotyping the Effects of Simulated Spring Frost on the Yield of Barley (*Hordeum vulgare* L.) and Wheat (*Triticum aestivum* L.)*, „Journal of Agronomy and Crop Science”, 2025, t.211, s. 1–10.
4. Heród A., Szewczyk-Taranek B., i Pawłowska B., *Formulating evidence-based design guidelines for therapeutic gardens tailored to elderly populations: a synthesis of reminiscence and preference studies*, „Acta Scientiarum Polonorum Hortorum Cultus Horticulture”, 2024, t.23, s. 13–28.
5. Kacorzyk P., Starzec K., Kaszycki P., i Supel P., *THE ROLE OF BIODEGRADABLE NONWOVEN FABRICS IN EFFICIENT SODDING OF EARTH STRUCTURES*, „Acta Scientiarum Polonorum Formatio Circumiectus”, 2023, s. 37–48.

ATTACHMENTS

Adequacy of the education program and individual research plans to the learning outcomes for qualifications at PRK level 8 and their implementation

No.	File type	Filename
1	Education programmes during the evaluation period	Programy_ksztalcenia_ENG.pdf

Method of verifying learning outcomes for qualifications at PRK level 8

No.	File type	Filename
1	The method of assessing the learning outcomes for qualifications at level 8 of the PQF	1a._Regulations_DS_12-01-2024_ENG.pdf
2	The method of assessing the learning outcomes for qualifications at level 8 of the PQF	2a._Study_Programme_-_basic_ENG.pdf
3	The method of assessing the learning outcomes for qualifications at level 8 of the PQF	3a._Study_Programme_-_Eurohort_ENG.pdf
4	The method of assessing the learning outcomes for qualifications at level 8 of the PQF	4a._Regulation_of_evaluation_of_scientific_research_ENG.pdf
5	The method of assessing the learning outcomes for qualifications at level 8 of the PQF	5a._Regulation_of_mid-term_evaluation_of_learning_outcomes_ENG.pdf
6	The method of assessing the learning outcomes for qualifications at level 8 of the PQF	6a._Regulations_for_evaluating_progress_of_learning_outcomes_ENG.pdf

Qualifications of academic teachers or research staff conducting education at the doctoral school

No.	File type	Filename
1	agriculture and horticulture	Rolnictwo_i_ogrodnictwo_ENG.pdf
2	food and nutrition technology	Technologia_żywności_i_żywienia_ENG_.pdf
3	forestry	Nauki_leśne_ENG.pdf
4	biological sciences	Nauki_biologiczne_ENG.pdf
5	environmental engineering, mining and energy	Inżynieria_ŚGiE_ENG.pdf
6	mechanical engineering	Inżynieria_mechaniczna_ENG.pdf
7	animal science and fisheries	Zootechnika_i_rybactwo_ENG.pdf
8	veterinary science	Weterynaria_ENG.pdf
9	economics and finance	Ekonomia_i_finanse_ENG.pdf
10	civil engineering and transport	Inżynieria_LGiT_ENG.pdf
11	civil engineering, geodesy and transport	Inżynieria_LGiT_ENG.pdf

Quality of the recruitment process

No.	File type	Filename
1	The compositions of the admissions committees during the evaluation period and the rationale for their selection with the aim of maintaining high admission standards	1a._Recruitment_Com
2	The regulations of the doctoral school during the evaluation period	3a._Regulations_DS_1
3	The admissions rules of the doctoral school during the evaluation period	2a._Admission_rules_

Quality of scientific or artistic supervision and support for conducting scientific activities

No.	File type	Filename
1	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	1a._Regulations_DS_12-01-2024_ENG.pdf
2	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	2a._Regulation_of_mid-term_evaluation_C
3	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	3a._Regulation_of_evaluation_of_scientif
4	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	4a._Regulations_for_evaluating_progress

STATEMENTS



I hereby declare that the information contained in the self-assessment report is fully consistent with the factual and legal status.



I hereby declare that the information contained in the self-assessment report in Polish and English is fully identical in substance.



I hereby declare that the documents attached to the self-assessment report in Polish and English are fully identical in substance.

Signature



Signed by /
Podpisano przez:

Marcin Karol Rapacz

Date / Data: 2025-
12-01 12:49

AUTHORIZATIONS

Added files

Pełnomocnictwo_M_Rapacz_do_SD_1-12-2025.pdf

Pełnomocnictwo_ZM_Kowalski_do_SD.pdf

**Curriculum of the Doctoral School
Hugo Kollataj University of Agriculture in Krakow**

§ 1

1. Doctoral training in the Doctoral School lasts eight semesters. It is conducted on the basis of a curriculum which enables doctoral candidates to achieve the learning outcomes appropriate for a full qualification at level 8 of the Polish Qualifications Framework, as referred to in the provisions on the Integrated Qualifications System, in the form of:
 1. advanced knowledge that significantly influences the development of the field related to the area of the conducted scientific research, including the latest scientific achievements;
 2. skills related to the methods and methodology of conducting scientific research, as well as the analysis and creative synthesis of scientific achievements, for the purpose of identifying and solving research problems and creating new elements of these achievements;
 3. social competences relating to research activity and the social role of a scholar, including undertaking challenges in the professional and public sphere, with consideration of their ethical dimension.
2. The learning outcomes correspond to the fields and disciplines of science, in accordance with the rights held by the University.
3. The curriculum provides for doctoral candidates to undertake professional practice in the form of conducting or co-conducting classes.
4. The curriculum is implemented in Polish or in English. The Director of the Doctoral School may decide that the entire curriculum for specific groups of doctoral candidates, in particular for foreigners, be delivered in English.

§ 2

1. The curriculum allows for a high degree of individualization of doctoral training. It specifies:
 1. compulsory general courses, aimed mainly at doctoral candidates of a given cohort;
 2. specialist elective courses, in which the doctoral candidate's participation depends on the topic, scope and level of advancement in the implementation of the Individual Research Plan.
2. In particular, the curriculum defines subjects, workshops and seminars as well as other classes and activities, the completion of which enables the achievement of the intended learning outcomes, including courses that broaden knowledge and skills:
 1. in a given scientific discipline, enabling the implementation of research and the application and creative development of research methods, techniques and tools necessary to solve problems or carry out research tasks specific to that discipline;

2. in other scientific disciplines, enabling the creative identification and innovative solving of complex problems or the performance of research tasks, including within cooperation in interdisciplinary teams.
3. Specialist classes lead to the development of key competences specific to a given scientific discipline. Therefore, they are implemented using a variety of teaching methods and organizational forms, such as lectures, seminars, as well as research and methodological workshops, including those devoted to the use of specialist research methods and tools.

§ 3

1. In the curriculum, ECTS credits are assigned to all forms of classes completed by the doctoral candidate, as referred to in § 2(1).
2. The curriculum specifies the annual number of ECTS credits that a doctoral candidate should obtain within homogeneous groups of classes, in particular:
 1. compulsory classes, including doctoral seminars;
 2. scientific conferences and seminars;
 3. university seminars – interdisciplinary and specialist;
 4. specialist workshops, including those conducted by international experts and practitioners.
3. The allocation of ECTS credits takes into account the scope of the doctoral candidate's activity, including the form of presenting their own achievements.
4. ECTS credits are not assigned for professional practice carried out in the form of teaching or assisting in teaching classes, as referred to in § 1(3).
5. Classes completed as part of international exchange may be counted towards the courses referred to in item 2(1), and research internships, including international internships, may be counted towards the courses referred to in item 2(2–4), in accordance with the Regulations of the Doctoral School.
6. It is permissible to obtain part of the learning outcomes using distance learning methods and techniques.

§ 4

1. The curriculum of the University's doctoral school enables doctoral students to obtain at least 36 ECTS credits, which constitute the basis for assessing progress in its implementation, as referred to in the Regulations of the Doctoral School.
2. The core element of the curriculum is composed of modules within which compulsory courses are implemented, amounting to 21 ECTS credits:
 1. Module 1 – Conducting Research and Disseminating Research Results, including the following course blocks:
 - a) Dissemination of research results,
 - b) Presentation of research results,
 - c) Scientific writing,
 - d) Applying for research funding,
 - e) Organizing scientific events.
 2. Module 2 – Research Methodology, including the following course blocks:
 - a) Experimentation and modelling – basic level,
 - b) Experimentation and modelling – advanced level,
 - c) Data processing and analysis,
 - d) Specialized statistical workshops.

3. Module 3 – Doctoral Seminar.
4. Module 4 – Teaching Methodology in Higher Education, including the following course blocks:
 - a) Teaching methods in higher education,
 - b) Communication in science and higher education – how to speak so that we are listened to,
 - c) e-Education.
5. Module 5 – Intellectual Property Law, including the following course blocks:
 - a) Copyright law,
 - b) Industrial property law.
6. Module 6 – Scientific English, including the following course blocks:
 - a) Characteristics of Scientific English,
 - b) Scientific English in practice.
3. The individualization of doctoral education is ensured through specialized elective courses. The doctoral student selects these elective courses in consultation with their supervisor(s).
4. Elective courses include in particular specialized and interdisciplinary seminars – a total of 96 hours and 4 ECTS credits during the course of study. There is a possibility to combine hours from elective courses completed in two consecutive years.
5. Elective courses, as referred to in item 4, may include discipline-specific elective courses such as lectures, seminars, workshops, and courses designed for doctoral education. The need to implement such courses may be reported by individuals entrusted by the Rector with representing a given scientific discipline at the University, as well as by doctoral students, dissertation supervisors, and heads of units in which doctoral students conduct research. The procedure for approving such courses is specified in the Regulations of the Doctoral School.

§ 5

1. Seminars referred to in § 4 item 4(1) should enable doctoral students to achieve learning outcomes in the form of:
 1. knowledge – knowing the global scientific achievements in selected agricultural, engineering-technical, and economic sciences in the context of knowledge development in the discipline in which the doctoral dissertation is conducted, as well as the resulting implications for the economy and society;
 2. skills – being able to participate in the exchange of experience and ideas within selected agricultural, engineering-technical, and economic sciences in order to creatively identify and innovatively solve complex problems of the economy and society;
 3. social competence – being ready to undertake cognitive challenges and recognize the importance of knowledge in solving complex problems of the economy and society.
2. Participation in the courses included in the curriculum should be oriented towards achieving learning outcomes in the form of:
 1. knowledge – knowing the global scientific achievements in selected basic and applied sciences in the context of knowledge development in the discipline in which the doctoral dissertation is conducted and the resulting implications for the development of that discipline;
 2. skills – being able to analyze and creatively synthesize achievements in basic and applied sciences, and on this basis conduct critical evaluation of the

discipline in which the doctoral dissertation is carried out, as well as use a foreign language at a level enabling verification of global scientific achievements;

3. social competence – being ready to think and responsibly undertake scientific challenges in a comprehensive and independent manner.

§ 6

1. As part of specialized training, the doctoral student should also:
 1. complete at least a one-month international research internship related to their research, for which 4 ECTS credits must be assigned;
 2. actively participate in at least two international conferences, including at least one held abroad, for which 4 ECTS credits must be assigned.
2. Participation in the international exchange of ideas will enable the sharing of experiences and engagement in scientific discourse in an international environment, which will contribute to the development of the ethos of research communities.

§ 7

1. The doctoral student shall select specialized elective courses in consultation with their supervisor(s), no later than one month before the start of the relevant semester.
2. The principles for determining and approving the plan for the implementation of specialized elective courses are specified in the Regulations of the Doctoral School.

§ 8

1. An element of the curriculum of the University's doctoral school is the completion of professional practice in the form of teaching or assisting in teaching:
 1. In the second year of study, the doctoral student is required to participate in teaching classes for students for 24 hours per year.
 2. In the third and fourth years of study, the doctoral student is required to independently conduct 30 hours of classes per year.
2. If it is not possible to conduct classes as specified in item 1(2), the doctoral student is required to fulfil the obligation by participating in the teaching process instead.
3. ECTS credits are not assigned for professional practice carried out in the form of teaching or assisting in teaching.

§ 9

1. The learning outcomes corresponding to level 8 of the Polish Qualifications Framework are specified in Annex No. 1.
2. The framework characteristics of the curriculum are specified in Annex No. 2.
3. The characteristics of compulsory courses are specified in Annex No. 3.

§ 10

All doctoral students commencing education at the University's doctoral school are required to complete training in occupational health and safety, as well as necessary training regarding safety rules in research laboratories. The procedure and form of this training are regulated by separate provisions.

Polish Qualifications Framework (PQF)
Universal Characteristics of PQF Levels (Act of 22 December 2015
on the Integrated Qualifications System) – Level 8

Categories of Learning Outcome Characteristics	Description Component Code	Description of Learning Outcome
Knowledge: knows and understands	P8U_W	the global scientific and creative achievements and their implications for practice
Skills: is able to	P8U_U	analyze and creatively synthesize scientific and creative achievements in order to identify and solve research problems and those related to innovative and creative activity; create new elements of these achievements
		independently plan own development and inspire the development of others
		participate in the exchange of experiences and ideas, including in an international environment
Social competence: is ready to	P8U_UK	conduct independent research that expands existing scientific and creative achievements
		undertake challenges in professional and public spheres, taking into account their ethical dimension and responsibility for their consequences, and shaping patterns of appropriate conduct

Second-Level Characteristics of Learning Outcomes for Qualifications at PQF Levels 6–8
(Regulation of the Minister of Science and Higher Education of 14 November 2018) – Level 8

Categories of Learning Outcome Characteristics	Descriptive Categories – Aspects of Fundamental Importance	Component Code	Description of the Learning Outcome
Knowledge: knows and understands	Scope and depth – completeness of cognitive perspective and interrelations	P8S_WG	to an extent enabling revision of existing paradigms – the global body of knowledge, including theoretical foundations as well as general issues and selected specific issues relevant to a given scientific or artistic discipline main developmental trends of the scientific or artistic disciplines in which education is conducted research methodologies principles of disseminating the results of scientific activity, including through open access

	Context – conditions, implications	P8S_WK	fundamental dilemmas of contemporary civilization economic, legal, ethical, and other significant conditions of scientific activity basic principles of knowledge transfer to economic and social spheres, as well as commercialization of research results and related know-how
Skills: is able to	Application of knowledge – problems addressed and tasks performed	P8S_UW	use knowledge from various fields of science or art to creatively identify, formulate, and innovatively solve complex problems or perform research tasks, in particular: – define the aim and subject of scientific research, formulate a research hypothesis – develop research methods, techniques, and tools and apply them creatively – draw conclusions based on research results conduct critical analysis and evaluation of scientific research results, expert activities, and other creative work, as well as their contribution to the development of knowledge transfer research results to the economic and social spheres
	Communication – receiving and producing statements, disseminating knowledge in the scientific community, and using a foreign language	P8S_UK	communicate on specialist topics at a level enabling active participation in the international scientific community disseminate the results of scientific activity, including in popular forms initiate debate participate in scientific discourse use a foreign language at level B2 CEFR enabling participation in an international scientific and professional environment
	Work organization – planning and teamwork	P8S_UO	plan and carry out individual and team research or creative projects, including in an international environment
	Learning – planning one's own development and development of others	P8S_UU	independently plan and act for one's own development and inspire and organize the development of other people plan classes or groups of classes and conduct them using modern methods and tools

Social competence: is ready to	Evaluation – critical approach	P8S_KK	critically assess the achievements of a given scientific or artistic discipline critically assess one's own contribution to the development of the discipline recognize the importance of knowledge in solving cognitive and practical problems
	Responsibility – fulfilling social obligations and acting for the public good	P8S_KO	fulfil social obligations of researchers and creators initiate activities for the public good think and act in an entrepreneurial manner
	Professional role – independence and development of ethos	P8S_KR	uphold and develop the ethos of research and creative communities, including: – conducting scientific activity independently – respecting the principle of public ownership of scientific results, taking into account intellectual property protection principles

Framework Plan of Compulsory Courses

Modules and Course Blocks	ECTS	Total courses hours	including			
			lectures	seminars	workshops	exercises
Conducting Research and Disseminating Research Results	3	36	4	8	8	-
Dissemination of Research Results		12	4		8	
Editing Scientific Publications		4			4	
Organizing Scientific Events		6			6	
Applying for Research Funding		14		8	6	
Research Methodology	7	100	-	-	100	-
Experimentation and Modelling – Basic Level		20			20	
Experimentation and Modelling – Advanced Level		20			20	
Data Processing and Analysis		30			30	
Specialized Statistical Workshops		30			30	
Doctoral Seminar	2	24	-	24	-	-
Current Challenges in Science		12		12		
Evaluation of scientific progress		12		12		
Higher Education Pedagogy	2	24	4	-	20	-
Teaching Methods in Higher Education		4	4			
Communication in Science and Higher Education – How to Speak So That We Are Heard?		4			4	
e-Education		16			16	
Intellectual Property Law	1	8	4	-	4	-
Copyright Law		4	4			
Industrial Property Law		4			4	
Scientific English	6	80	-	-	50	30
Specificity of Scientific English		30				30
Scientific English in Practice		50			50	
Total Compulsory Courses	21	272	12	32	182	30
Elective Specialist Courses	17	156	60	96	-	-
Specialist and Interdisciplinary Seminars	5	96		96		
Programme Courses within the Study Field	4	60	60			
International Internship	4					
Scientific Conferences	4					
Professional Teaching Practice	-	84	-	-	-	84
Total Facultative Courses	17	240	60	96	0	84
Total Curriculum	38	512	72	128	188	114

Annex 3

ECTS balance

Course	Year and semester								Total
	I		II		III		IV		
	1	2	3	4	5	6	7	8	
Conducting Research and Disseminating Research Results	1	1,0		1,0					3,0
Research Methodology	1,5	1,5	2,0	2,0					7,0
Doctoral Seminar		0,5		0,5		0,5		0,5	2,0
Higher Education Pedagogy			1,0	1,0					2,0
Intellectual Property Law					1,0				1,0
Scientific English	2,5	2,5				1,0			6,0
TOTAL COMPULSORY COURSES - ECTS BALANCE	5,0	6,0	3,0	4,0	1,0	1,5	0,0	0,5	21,0
Specialist and Interdisciplinary Seminars	1,0		1,0		1,5		1,5		5,0
Programme Courses within the Study Field	1,0		1,0		1,0		1,0		4,0
International Internship					2,0		2,0		4,0
Scientific Conferences					2,0		2,0		4,0
TOTAL FACULTATIVE COURSES - ECTS BALANCE	2,0		2,0		6,5		6,5		17,0
Professional Teaching Practice									-
TOTAL ECTS BALANCE	13,0		9,0		9,0		7,0		38,0

Balance of hours

Course	Year and semester								Total
	I		II		III		IV		
	1	2	3	4	5	6	7	8	
Conducting Research and Disseminating Research Results	12	18		6					36
Research Methodology	20	20	30	30					100
Doctoral Seminar		6		6		6		6	24
Higher Education Pedagogy			8	16					24
Intellectual Property Law					8				8
Scientific English	30	30				20			80
TOTAL COMPULSORY COURSES – BALANCE OF HOURS	62	74	38	58	8	26	0	6	272
Specialist and Interdisciplinary Seminars	24		24		24		24		96
Programme Courses within the Study Field	15		15		15		15		60
International Internship									-
Scientific Conferences									-
TOTAL FACULTATIVE COURSES – BALANCE OF HOURS	39		39		39		39		156
Professional Teaching Practice			24		30		30		84
TOTAL BALANCE OF HOURS	175		159		103		75		512

Compulsory modules

Doctroal School

Compulsory Module:		Conducting Research and Disseminating Research Results	
ECTS	3	Total number of hours	36
Semester	1 ; 2; 4	including: lectures	4
		seminars	8
		workshops	24
		exercises	-
		Total self-work	36

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDB_W1	principles of disseminating research results	P8S_WG
SDB_W2	has knowledge of the possibilities of obtaining external funding for scientific research	P8S_WG
SDB_W3	principles of preparing a scientific publication	P8S_WG
SDB_W4	evaluation of research units and academic staff	P8S_WG
SDB_W5	possible career development paths and professional advancement opportunities	P8S_WG
SKILLS – is able to:		
SDB_U1	independently prepare and edit scientific articles	P8S_UW
SDB_U2	present the obtained research results	P8S_UK
SDB_U3	apply for research funding and plan research projects – both individual and team-based	P8S_UO
SDB_U4	design and plan the development of their own academic career	P8S_UU
SOCIAL COMPETENCES – is ready to:		
SDB_K1	critically evaluating the results of one's own research and the scholarly output of the discipline	P8S_KK
SDB_K2	developing cooperation within the academic community and disseminating scientific activity	P8S_KR
SDB_K3	conducting scientific research in an independent manner	P8S_KR
SDB_K4	undertaking scientific and research challenges while maintaining their ethical dimension	P8S_KO

Content:

Lectures	4 hours
Course	Dissemination of Research Results
Content:	Quality of scientific publications; Forms of publishing research results; Peer-review system; Global rankings of research institutions and an overview of leaders in various disciplines; Bibliometric indicators; Methods of evaluating research institutions;
Topics and Scope of Classes	Methods of evaluating scientific achievements
Assessment method	Quiz

Workshop		8	hours
Course Content: Topics and Scope of Classes	Dissemination of Research Results Preparation, delivery, and evaluation of a scientific presentation (preparation for participation in a scientific conference); preparation and publication of a popular-science article on a topic selected by the doctoral student; preparation of a promotional article / organization of an event (e.g., a social media post, participation in the Science Festival, Open Days of the University) aimed at popularizing science and promoting the University.		
Assessment method	Preparing a presentation and article/event		
Workshop		4	hours
Course Content: Topics and Scope of Classes	Editing Scientific Publications Structure of a scientific publication, selection of an appropriate journal; editorial requirements; use of databases and scientific publication search engines; publication language; editing; promoting publications; submission of a manuscript to an editorial office using a real scientific journal as an example; software for creating bibliographies; writing a Cover Letter		
Assessment method	Project for credit		
Workshop		6	hours
Course Content: Topics and Scope of Classes	Organizing scientific events Organization of workshops and scientific conferences in both remote and traditional formats		
Assessment method	Project for credit		
Seminar		8	hours
Course Content: Topics and Scope of Classes	<u>Applying for Research Funding</u> Overview of institutions and foundations funding science (including NCN, NCBiR, FNP); types and formats of grant calls; rules for applying for research grants; rules for implementing research projects; rules for settling (accounting for) research projects; overview of scholarship programs and competitions aimed at doctoral students and early-career researchers; overview of opportunities for funding international research internships.		
Assessment method	Project for credit		

Compulsory Module: Research methodology

ECTS	7	Total number of hours	100
Semester	1; 2; 3; 4	including: lectures	-
		seminars	-
		workshops	100
		exercises	-
		Total self-work	70

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDM_W1	Methods of planning research and methods of experimental studies	P8S_WG
SDM_W2	Methods and techniques for data analysis and interpretation of experimental results	P8S_WG
SDM_W3	Computer software for data analysis and presentation of research results	P8S_WG
SKILLS – is able to:		
SDM_U1	Select and apply appropriate methodologies for conducting scientific research	P8S_UW
SDM_U2	Select suitable research methods, techniques, and tools; use appropriate software; and collect, analyze, and interpret data	P8S_UO
SDM_U3	Develop research methods and techniques	P8S_UW
SOCIAL COMPETENCES – is ready to:		
SDM_K1	Objective evaluation of observed phenomena in nature	P8S_KK
SDM_K2	Appreciates the need for continuous improvement of qualifications in the field of experimental methods	P8S_KK

Content::

Workshop		20	hours
Course Content: Topics and Scope of Classes	Experimentation and Modelling – Basic Level		
	Definition of science; Inductionism and hypothetism; Basics of statistics; General principles of planning and conducting scientific experiments (identifying the research problem, formulating the research hypothesis, sample selection, data collection, construction and verification of statistical hypotheses, selection of statistical tests, control group, cross-over experiment); Distribution testing; Tests of independence of two variables and randomness of a sample – significance tests; Parametric and non-parametric tests; Correlation and regression; Simple linear regression and multiple regression; Nonlinear regression; Qualitative variables in statistical modelling		
Assessment method		Task execution	
Workshop		20	hours
Experimentation and Modelling – Advanced Level			

Course Content: Topics and Scope of Classes	Analysis of variance (extension – multifactorial, interaction, and repeated-measures designs); Linear and nonlinear regression analysis (extension, mixed models, additive models); Cluster analysis; Generalized cluster analysis: EM algorithm; Time series analysis; Generalized Additive Models (GAM); Boosted Classification Trees; Neural networks
Assessment method	Task execution
Workshop	
Course Content: Topics and Scope of Classes	30 hours
Course Content: Topics and Scope of Classes	Data Processing and Analysis Performing practical tasks using methods discussed in earlier courses in the areas of: data acquisition, collection, and processing, conducting statistical analysis and modelling, using information technologies and available software.
Assessment method	Task execution
Workshop	
Course Content: Topics and Scope of Classes	30 hours
Course Content: Topics and Scope of Classes	Specialized Statistical Workshops Specificity of statistical analysis in a given discipline: Formulating hypotheses and designing experiments; Overview of the most commonly used statistical tools; Methods of data presentation
Assessment method	Task execution

Compulsory Module: Doctoral seminar

ECTS	2	Total number of hours	24
Semester	2; 4; 6; 8	including: lectures	-
		seminars	24
		workshops	-
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDS_W1	The current state of knowledge in the pursued scientific discipline	P8S_WG
SDS_W2	The most important and current research problems in various scientific disciplines	P8S_WG
SDS_W3	Civilizational dilemmas and developmental trends in research methods across different scientific disciplines	P8S_WK
SKILLS – is able to:		
SDS_U1	Formulate and justify the research problems undertaken	P8S_UW
SDS_U2	Use up-to-date knowledge in the given research discipline to justify the research problem and interpret results	P8S_UW
SDS_U3	Communicate on specialist topics, initiate debate, and participate in scientific discourse	P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDS_K1	Critical evaluation of one's own academic output and that of other researchers	P8S_KK
SDS_K2	Using up-to-date scientific knowledge to solve important environmental, social, and economic problems	P8S_KO

Content:

Seminar part 1		12	hours
Course Content:	<u>Current challenges of science</u>		
Topics and Scope of Classes	Current research challenges in the individual disciplines represented by the doctoral students; Preparation and delivery of a presentation on the state of knowledge and current challenges in the thematic area undertaken by the doctoral student		
Assessment method	Power point presentation		
Seminar part 2		12	hours
Course Content:	<u>Evaluation of scientific progress</u>		
Topics and Scope of Classes	Reporting current progress in scientific work at the end of each academic year during the general seminar of the doctoral school		
Assessment method	Power point presentation		

Compulsory Module: Higher Education Pedagogy

ECTS	2	Total number of hours	24
Semester	3; 4	including: lectures	4
		seminars	-
		workshops	20
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDP_W1	Principles and methods of teaching in higher education necessary for conducting academic classes	P8S_WG
SDP_W2	Principles of knowledge transfer in university teaching, including the use of distance-learning methods	P8S_WK
SKILLS – is able to:		
SDP_U1	Use knowledge from various fields of science to plan and conduct academic classes	P8S_UW P8S_UK
SDP_U2	Prepare and deliver teaching courses using information technology tools	P8S_UU P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDP_K1	Fulfilling social obligations in the education of managerial staff based on the latest scientific achievements	P8S_KO

Contents:

Lectures		4	hours
Course Content:	Teaching methods in higher education didactics		
Topics and Scope of Classes	Types of methods used in higher education didactics: lecture, seminar, talk, discussion and tribunal method, exercise and demonstration methods, educational game methods, situational method and brainstorming, project method		
Assessment method	Lesson plan draft		
Workshop		4	hours
Course Content:	Communication in Science and Higher Education – How to Speak So That We Are Heard?		
Topics and Scope of Classes	Presentations and speeches using visual aids; Motivating audiences to listen; Conducting conversations; Chairing and participating in scientific discussions; Effectively conducting classes with learners		
Assessment method	Assessment of class participation and activity		
Workshop		16	hours
	e-education		

Course	
Content:	Methodology of remote teaching; Forms of presentation in remote education;
Topics and	Technical capabilities for conducting group training and educational software;
Scope of	Structure of an e-learning course
Classes	

Assessment method	Project of the e-learning course

Doctoral School

Compulsory module: Intellectual Property Law

ECTS	1	Total number of hours	8
Semester	5	including: lectures	4
		seminars	-
		workshops	4
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDJ_W1	Legal, ethical, and economic conditions for conducting scientific activity and disseminating its results	P8S_WK
SDJ_W2	Principles of commercializing the results of research and innovation activities	P8S_WK
SKILLS – is able to:		
SDJ_U1	Transfer research results to the economic and social sectors in compliance with legal principles	P8S_UW
SOCIAL COMPETENCES – is ready to:		
SDJ_K1	Act for the benefit of an innovative economy and society	P8S_KO

Contents:

Lectures	4	hours
Course	Copyright Law	
Content:		
Topics and	Sources of law, subject matter of law, scope and principles of protection, principles	
Scope of	of fair use of protected works	
Classes		
Assessment method	Assessment of the activity during lectures	
Warsztaty	4	hours
Course	Industrial Property Law	
Content:		
Topics and	Inventions, utility models, industrial designs, trademarks, designations,	
Scope of	semiconductor topographies, rationalization projects	
Classes		
Assessment method	Final project / Project for course credit	

Compulsory Module: Scientific English

ECTS	4 6	Total number of hours	80
Semester	1; 2; 6	including: lectures	-
		seminars	-
		workshops	50
		exercises	30
		Total self-work	

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDE_W1	Useful phrases and grammatical structures in a foreign language necessary for conducting scientific activity	P8S_WG
SDE_W2	Principles of preparing documentation and presentations in a foreign language	P8S_WG
SKILLS – is able to:		
SDE_U1	Communicate in a foreign language in a way that enables participation in scientific discourse	P8S_UK
SDE_U2	Prepare scientific articles and documentation in a foreign language using appropriate terminology	P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDE_K1	Continuous learning and improving language competences	P8S_KK

Exercises

Exercises	30	hours
Course	Specificity of Scientific English	
Content:		
Topics and		
Scope of	Useful phrases and grammatical structures	
Classes		
Assessment method	Written credit	
Workshop	50	hours
Course	Scientific English in Practice	
Content:	Preparing a professional CV; Writing and publishing a popular science article;	
Topics and	Preparing an application for an international research internship; Preparing and	
Scope of	publishing a short academic biography in English on the institution's website;	
Classes	Preparing for presentations at international scientific conferences; Chairing	
	conferences and discussion panels in English	
Assessment method	Project for course credit	

**Curriculum of the European Horticulture (EUROHORT)
Education Program at the Doctoral School of the Hugo Kollataj University of
Agriculture in Kraków**

§ 1

1. The European Horticulture Education Program (hereinafter referred to as EUROHORT) is implemented at the Doctoral School of the Hugo Kollataj University of Agriculture in Kraków in cooperation with Mendel University in Brno (Czech Republic), on the basis of the "Agreement of Interuniversity Cooperation between Mendel University in Brno, Faculty of Horticulture – MUHF, Lednice, Czech Republic and the University of Agriculture in Krakow, Faculty of Biotechnology and Horticulture, Krakow, Poland," signed on May 5, 2017 by Prof. Ing. Robert Pokluda, Dean of MUHF, and Prof. Stanisław Mazur, PhD, Dean of the Faculty of Biotechnology and Horticulture.

§ 2

1. Doctoral training in the Doctoral School in the EUROHORT program lasts eight semesters. It is conducted on the basis of a curriculum which enables doctoral candidates to achieve the learning outcomes appropriate for a full qualification at level 8 of the Polish Qualifications Framework, as referred to in the provisions on the Integrated Qualifications System, in the form of:
 1. advanced knowledge that significantly influences the development of the field related to the area of the conducted scientific research, including the latest scientific achievements;
 2. skills related to the methods and methodology of conducting scientific research, as well as the analysis and creative synthesis of scientific achievements, for the purpose of identifying and solving research problems and creating new elements of these achievements;
 3. social competences relating to research activity and the social role of a scholar, including undertaking challenges in the professional and public sphere, with consideration of their ethical dimension.
2. The learning outcomes correspond to the fields and disciplines of science, in accordance with the rights held by the University.
3. The curriculum of EUROHORT program provides for doctoral candidates to undertake professional practice in the form of conducting or co-conducting classes.
4. The curriculum of EUROHORT program is implemented in Polish or in English. The Director of the Doctoral School may decide that the entire curriculum for specific groups of doctoral candidates, in particular for foreigners, be delivered in English.

§ 3

1. The curriculum of EUROHORT program allows for a high degree of individualization of doctoral training. It specifies:

1. compulsory general courses, aimed mainly at doctoral candidates of a given cohort;
2. specialist elective courses, in which the doctoral candidate's participation depends on the topic, scope and level of advancement in the implementation of the Individual Research Plan.
2. In particular, the curriculum of EUROHORT program defines subjects, workshops and seminars as well as other classes and activities, the completion of which enables the achievement of the intended learning outcomes, including courses that broaden knowledge and skills:
 1. in a given scientific discipline, enabling the implementation of research and the application and creative development of research methods, techniques and tools necessary to solve problems or carry out research tasks specific to that discipline;
 2. in other scientific disciplines, enabling the creative identification and innovative solving of complex problems or the performance of research tasks, including within cooperation in interdisciplinary teams.
3. Specialist classes lead to the development of key competences specific to a given scientific discipline. Therefore, they are implemented using a variety of teaching methods and organizational forms, such as lectures, seminars, as well as research and methodological workshops, including those devoted to the use of specialist research methods and tools.

§ 4

1. In the curriculum of EUROHORT program, ECTS credits are assigned to all forms of classes completed by the doctoral candidate, as referred to in § 3(1).
2. The curriculum specifies the annual number of ECTS credits that a doctoral candidate should obtain within homogeneous groups of classes, in particular:
 1. compulsory classes, including doctoral seminars;
 2. scientific conferences and seminars;
 3. university seminars – interdisciplinary and specialist;
 4. specialist workshops, including those conducted by international experts and practitioners.
3. The allocation of ECTS credits takes into account the scope of the doctoral candidate's activity, including the form of presenting their own achievements.
4. ECTS credits are not assigned for professional practice carried out in the form of teaching or assisting in teaching classes, as referred to in § 2(3).
5. Classes completed as part of international exchange may be counted towards the courses referred to in item 2(1), and research internships, including international internships, may be counted towards the courses referred to in item 2(2–4), in accordance with the Regulations of the Doctoral School.
6. It is permissible to obtain part of the learning outcomes using distance learning methods and techniques.

§ 5

1. The curriculum of EUROHORT program enables doctoral students to obtain at least 40 ECTS credits, which constitute the basis for assessing progress in its implementation, as referred to in the Regulations of the Doctoral School.

2. The core element of the curriculum of EUROHORT program is composed of modules within which compulsory courses are implemented, amounting to 21 ECTS credits:
 1. Module 1 – Conducting Research and Disseminating Research Results, including the following course blocks:
 - a) Dissemination of research results,
 - b) Presentation of research results,
 - c) Scientific writing,
 - d) Applying for research funding,
 - e) Organizing scientific events.
 2. Module 2 – Research Methodology, including the following course blocks:
 - a) Experimentation and modelling – basic level,
 - b) Experimentation and modelling – advanced level,
 - c) Data processing and analysis,
 - d) Specialized statistical workshops.
 3. Module 3 – Doctoral Seminar.
 4. Module 4 – Teaching Methodology in Higher Education, including the following course blocks:
 - a) Teaching methods in higher education,
 - b) Communication in science and higher education – how to speak so that we are listened to,
 - c) e-Education.
 5. Module 5 – Intellectual Property Law, including the following course blocks:
 - a) Copyright law,
 - b) Industrial property law.
 6. Module 6 – Scientific English, including the following course blocks:
 - a) Characteristics of Scientific English,
 - b) Scientific English in practice.
3. The individualization of doctoral education is ensured through specialized elective courses. The doctoral student selects these elective courses in consultation with their supervisor(s).
4. Elective courses include in particular specialized and interdisciplinary seminars – a total of 96 hours and 4 ECTS credits during the course of study. There is a possibility to combine hours from elective courses completed in two consecutive years.
5. Elective courses, as referred to in item 4, may include discipline-specific elective courses such as lectures, seminars, workshops, and courses designed for doctoral education. The need to implement such courses may be reported by individuals entrusted by the Rector with representing a given scientific discipline at the University, as well as by doctoral students, dissertation supervisors, and heads of units in which doctoral students conduct research. The procedure for approving such courses is specified in the Regulations of the Doctoral School.

§ 6

1. Attending the courses of EUROHORT program should enable doctoral students to achieve learning outcomes in the form of:
 1. knowledge – knowing the global scientific achievements in selected agricultural, engineering-technical, and economic sciences in the context of knowledge development in the discipline in which the doctoral dissertation is conducted, as well as the resulting implications for the economy and society;

2. skills – being able to participate in the exchange of experience and ideas within selected agricultural, engineering-technical, and economic sciences in order to creatively identify and innovatively solve complex problems of the economy and society;
 3. social competence – being ready to undertake cognitive challenges and recognize the importance of knowledge in solving complex problems of the economy and society.
2. Participation in the courses included in the curriculum should be oriented towards achieving learning outcomes in the form of:
1. knowledge – knowing the global scientific achievements in selected basic and applied sciences in the context of knowledge development in the discipline in which the doctoral dissertation is conducted and the resulting implications for the development of that discipline;
 2. skills – being able to analyze and creatively synthesize achievements in basic and applied sciences, and on this basis conduct critical evaluation of the discipline in which the doctoral dissertation is carried out, as well as use a foreign language at a level enabling verification of global scientific achievements;
 3. social competence – being ready to think and responsibly undertake scientific challenges in a comprehensive and independent manner.

§ 7

1. As part of specialized training, the doctoral student should also:
 1. complete at least a one-month international research internship related to their research, for which 4 ECTS credits must be assigned;
 2. actively participate in at least two international conferences, including at least one held abroad, for which 4 ECTS credits must be assigned.
2. Participation in the international exchange of ideas will enable the sharing of experiences and engagement in scientific discourse in an international environment, which will contribute to the development of the ethos of research communities.

§ 8

1. The doctoral student shall select specialized elective courses in consultation with their supervisor(s), no later than one month before the start of the relevant semester.
2. The principles for determining and approving the plan for the implementation of specialized elective courses are specified in the Regulations of the Doctoral School.

§ 9

1. An element of the curriculum of EUROHORT program is the completion of professional practice in the form of teaching or assisting in teaching:
 1. In the second year of study, the doctoral student is required to participate in teaching classes for students for 24 hours per year.
 2. In the third and fourth years of study, the doctoral student is required to independently conduct 30 hours of classes per year.
2. If it is not possible to conduct classes as specified in item 1(2), the doctoral student is required to fulfil the obligation by participating in the teaching process instead.

3. ECTS credits are not assigned for professional practice carried out in the form of teaching or assisting in teaching.

§ 10

1. The learning outcomes corresponding to level 8 of the Polish Qualifications Framework are specified in Annex No. 1.
2. The framework characteristics of the curriculum of EUROHORT program are specified in Annex No. 2.
3. The characteristics of compulsory courses and the Joint Dissertation Colloquium course are specified in Annex No. 3.

§ 11

All doctoral students commencing education at the University's doctoral school are required to complete training in occupational health and safety, as well as necessary training regarding safety rules in research laboratories. The procedure and form of this training are regulated by separate provisions.

Polish Qualifications Framework (PQF)
Universal Characteristics of PQF Levels (Act of 22 December 2015
on the Integrated Qualifications System) – Level 8

Categories of Learning Outcome Characteristics	Description Component Code	Description of Learning Outcome
Knowledge: knows and understands	P8U_W	the global scientific and creative achievements and their implications for practice
Skills: is able to	P8U_U	analyze and creatively synthesize scientific and creative achievements in order to identify and solve research problems and those related to innovative and creative activity; create new elements of these achievements
		independently plan own development and inspire the development of others
		participate in the exchange of experiences and ideas, including in an international environment
Social competence: is ready to	P8U_UK	conduct independent research that expands existing scientific and creative achievements
		undertake challenges in professional and public spheres, taking into account their ethical dimension and responsibility for their consequences, and shaping patterns of appropriate conduct

Second-Level Characteristics of Learning Outcomes for Qualifications at PQF Levels 6–8
(Regulation of the Minister of Science and Higher Education of 14 November 2018) – Level 8

Categories of Learning Outcome Characteristics	Descriptive Categories – Aspects of Fundamental Importance	Component Code	Description of the Learning Outcome
Knowledge: knows and understands	Scope and depth – completeness of cognitive perspective and interrelations	P8S_WG	to an extent enabling revision of existing paradigms – the global body of knowledge, including theoretical foundations as well as general issues and selected specific issues relevant to a given scientific or artistic discipline main developmental trends of the scientific or artistic disciplines in which education is conducted research methodologies principles of disseminating the results of scientific activity, including through open access

	Context – conditions, implications	P8S_WK	fundamental dilemmas of contemporary civilization economic, legal, ethical, and other significant conditions of scientific activity basic principles of knowledge transfer to economic and social spheres, as well as commercialization of research results and related know-how
Skills: is able to	Application of knowledge – problems addressed and tasks performed	P8S_UW	use knowledge from various fields of science or art to creatively identify, formulate, and innovatively solve complex problems or perform research tasks, in particular: – define the aim and subject of scientific research, formulate a research hypothesis – develop research methods, techniques, and tools and apply them creatively – draw conclusions based on research results conduct critical analysis and evaluation of scientific research results, expert activities, and other creative work, as well as their contribution to the development of knowledge transfer research results to the economic and social spheres
	Communication – receiving and producing statements, disseminating knowledge in the scientific community, and using a foreign language	P8S_UK	communicate on specialist topics at a level enabling active participation in the international scientific community disseminate the results of scientific activity, including in popular forms initiate debate participate in scientific discourse use a foreign language at level B2 CEFR enabling participation in an international scientific and professional environment
	Work organization – planning and teamwork	P8S_UO	plan and carry out individual and team research or creative projects, including in an international environment
	Learning – planning one's own development and development of others	P8S_UU	independently plan and act for one's own development and inspire and organize the development of other people plan classes or groups of classes and conduct them using modern methods and tools

Social competence: is ready to	Evaluation – critical approach	P8S_KK	critically assess the achievements of a given scientific or artistic discipline critically assess one's own contribution to the development of the discipline recognize the importance of knowledge in solving cognitive and practical problems
	Responsibility – fulfilling social obligations and acting for the public good	P8S_KO	fulfil social obligations of researchers and creators initiate activities for the public good think and act in an entrepreneurial manner
	Professional role – independence and development of ethos	P8S_KR	uphold and develop the ethos of research and creative communities, including: – conducting scientific activity independently – respecting the principle of public ownership of scientific results, taking into account intellectual property protection principles

Framework Plan of Compulsory Courses

Modules and Course Blocks	ECTS	Total courses hours	including			
			lectures	seminars	workshops	exercises
Conducting Research and Disseminating Research Results	3	36	4	8	8	-
Dissemination of Research Results		12	4		8	
Editing Scientific Publications		4			4	
Organizing Scientific Events		6			6	
Applying for Research Funding		14		8	6	
Research Methodology	7	100	-	-	100	-
Experimentation and Modelling – Basic Level		20			20	
Experimentation and Modelling – Advanced Level		20			20	
Data Processing and Analysis		30			30	
Specialized Statistical Workshops		30			30	
Doctoral Seminar	2	24	-	24	-	-
Current Challenges in Science		12		12		
Evaluation of scientific progress		12		12		
Higher Education Pedagogy	2	24	4	-	20	-
Teaching Methods in Higher Education		4	4			
Communication in Science and Higher Education – How to Speak So That We Are Heard?		4			4	
e-Education		16			16	
Intellectual Property Law	1	8	4	-	4	-
Copyright Law		4	4			
Industrial Property Law		4			4	
Scientific English	6	80	-	-	50	30
Specificity of Scientific English		30				30
Scientific English in Practice		50			50	
Total Compulsory Courses	21	272	12	32	198	30
Elective Specialist Courses	19	168	36	96	-	36
Joint Dissertation Colloquium	5	96		96		
Programme Courses (including those in a partner University)	6	72	36			36
International Internship	4					
Scientific Conferences	4					
Professional Teaching Practice	-	84	-	-	-	84
Total Facultative Courses	19	252	36	96	0	120
Total Curriculum	40	512	48	128	198	150

Courses proposed in the Mendel University in Brno (Czech Republic) and URK – a list of electives

Courses	Total hours
(Mendla University in Brno)	
Biotechnology in Horticulture	24
Instrumental Analysis	24
Stress Factors in Horticultural Production	24
Enology	24
Breeding of Fruit Crops	24
Molecular Plant Physiology	24
Food Chemistry and Biotechnology	24
Beverage Microbiology	24
Environmental Chemistry	24
International Trade	24
(University of Agriculture in Krakow)	
Biodiversity of Vegetable Plants	24
Herbal and Medicinal Plants	24
Integrated Protection of Horticultural Crops	24
Modern Instrumental Methods for Assessing the Quality of Herbs, Vegetables, and Other Cultivated Plants	24
Molecular Biology	24
Molecular Breeding	24
Organic Horticulture	24
Oxidative Stress and the Antioxidant System of Plants	24
Use of Tissue Cultures in the Improvement of Crop Plants	24
Urban Horticulture	24

Annex 3

ECTS balance

Course	Year and semester								Total
	I		II		III		IV		
	1	2	3	4	5	6	7	8	
Conducting Research and Disseminating Research Results	1,0	1,0		1,0					3,0
Research Methodology	1,5	1,5	2,0	2,0					7,0
Doctoral Seminar		0,5		0,5		0,5		0,5	2,0
Higher Education Pedagogy			1,0	1,0					2,0
Intellectual Property Law					1,0				1,0
Scientific English	2,5	2,5				1,0			6,0
TOTAL COMPULSORY COURSES - ECTS BALANCE	5,0	5,5	3,0	4,5	1,0	1,5	0,0	0,5	21,0
Joint Dissertation Colloquium			1,5		1,5		1,5		5,0
Programme Courses (including those in a partner University)	2,0		2,0		2,0				6,0
International Internship					4,0				4,0
Scientific Conferences					2,0		2,0		4,0
TOTAL FACULTATIVE COURSES - ECTS BALANCE	2,0		3,5		9,5		4,0		19,0
Professional Teaching Practice									-
TOTAL ECTS BALANCE	12,5		11,0		12,0		4,5		40,0

Balance of hours

Course	Year and semester								Total
	I		II		III		IV		
	1	2	3	4	5	6	7	8	
Conducting Research and Disseminating Research Results	12	18		6					36
Research Methodology	20	20	30	30					100
Doctoral Seminar		6		6		6		6	24
Higher Education Pedagogy			8	16					24
Intellectual Property Law					8				8
Scientific English	30	30				20			80
TOTAL COMPULSORY COURSES – BALANCE OF HOURS	62	74	38	58	8	26	0	6	272
Joint Dissertation Colloquium			32		32		32		96
Programme Courses (including those in a partner University)	24		24		24				72
International Internship									-
Scientific Conferences									-
TOTAL FACULTATIVE COURSES – BALANCE OF HOURS	24		56		56		32		168
Professional Teaching Practice			24		30		30		84
TOTAL BALANCE OF HOURS	160		176		120		68		524

Compulsory modules

Doctroal School

Compulsory Module:		Conducting Research and Disseminating Research Results	
ECTS	3	Total number of hours	36
Semester	1 ; 2; 4	including: lectures	4
		seminars	8
		workshops	24
		exercises	-
		Total self-work	36

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDB_W1	principles of disseminating research results	P8S_WG
SDB_W2	has knowledge of the possibilities of obtaining external funding for scientific research	P8S_WG
SDB_W3	principles of preparing a scientific publication	P8S_WG
SDB_W4	evaluation of research units and academic staff	P8S_WG
SDB_W5	possible career development paths and professional advancement opportunities	P8S_WG
SKILLS – is able to:		
SDB_U1	independently prepare and edit scientific articles	P8S_UW
SDB_U2	present the obtained research results	P8S_UK
SDB_U3	apply for research funding and plan research projects – both individual and team-based	P8S_UO
SDB_U4	design and plan the development of their own academic career	P8S_UU
SOCIAL COMPETENCES – is ready to:		
SDB_K1	critically evaluating the results of one's own research and the scholarly output of the discipline	P8S_KK
SDB_K2	developing cooperation within the academic community and disseminating scientific activity	P8S_KR
SDB_K3	conducting scientific research in an independent manner	P8S_KR
SDB_K4	undertaking scientific and research challenges while maintaining their ethical dimension	P8S_KO

Content:

Lectures	4 hours
Course	Dissemination of Research Results
Content:	Quality of scientific publications; Forms of publishing research results; Peer-review system; Global rankings of research institutions and an overview of leaders in various disciplines; Bibliometric indicators; Methods of evaluating research institutions;
Topics and Scope of Classes	Methods of evaluating scientific achievements
Assessment method	Quiz

Workshop		8	hours
Course Content: Topics and Scope of Classes	Dissemination of Research Results Preparation, delivery, and evaluation of a scientific presentation (preparation for participation in a scientific conference); preparation and publication of a popular-science article on a topic selected by the doctoral student; preparation of a promotional article / organization of an event (e.g., a social media post, participation in the Science Festival, Open Days of the University) aimed at popularizing science and promoting the University.		
Assessment method	Preparing a presentation and article/event		
Workshop		4	hours
Course Content: Topics and Scope of Classes	Editing Scientific Publications Structure of a scientific publication, selection of an appropriate journal; editorial requirements; use of databases and scientific publication search engines; publication language; editing; promoting publications; submission of a manuscript to an editorial office using a real scientific journal as an example; software for creating bibliographies; writing a Cover Letter		
Assessment method	Project for credit		
Workshop		6	hours
Course Content: Topics and Scope of Classes	Organizing scientific events Organization of workshops and scientific conferences in both remote and traditional formats		
Assessment method	Project for credit		
Seminar		8	hours
Course Content: Topics and Scope of Classes	<u>Applying for Research Funding</u> Overview of institutions and foundations funding science (including NCN, NCBiR, FNP); types and formats of grant calls; rules for applying for research grants; rules for implementing research projects; rules for settling (accounting for) research projects; overview of scholarship programs and competitions aimed at doctoral students and early-career researchers; overview of opportunities for funding international research internships.		
Assessment method	Project for credit		

Compulsory Module: Research methodology

ECTS	7	Total number of hours	100
Semester	1; 2; 3; 4	including: lectures	-
		seminars	-
		workshops	100
		exercises	-
		Total self-work	70

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDM_W1	Methods of planning research and methods of experimental studies	P8S_WG
SDM_W2	Methods and techniques for data analysis and interpretation of experimental results	P8S_WG
SDM_W3	Computer software for data analysis and presentation of research results	P8S_WG
SKILLS – is able to:		
SDM_U1	Select and apply appropriate methodologies for conducting scientific research	P8S_UW
SDM_U2	Select suitable research methods, techniques, and tools; use appropriate software; and collect, analyze, and interpret data	P8S_UO
SDM_U3	Develop research methods and techniques	P8S_UW
SOCIAL COMPETENCES – is ready to:		
SDM_K1	Objective evaluation of observed phenomena in nature	P8S_KK
SDM_K2	Appreciates the need for continuous improvement of qualifications in the field of experimental methods	P8S_KK

Content::

Workshop	20	hours
Course Content: Topics and Scope of Classes	Experimentation and Modelling – Basic Level Definition of science; Inductionism and hypothetism; Basics of statistics; General principles of planning and conducting scientific experiments (identifying the research problem, formulating the research hypothesis, sample selection, data collection, construction and verification of statistical hypotheses, selection of statistical tests, control group, cross-over experiment); Distribution testing; Tests of independence of two variables and randomness of a sample – significance tests; Parametric and non-parametric tests; Correlation and regression; Simple linear regression and multiple regression; Nonlinear regression; Qualitative variables in statistical modelling	
Assessment method	Task execution	
Workshop	20	hours
	Experimentation and Modelling – Advanced Level	

Course Content: Topics and Scope of Classes	Analysis of variance (extension – multifactorial, interaction, and repeated-measures designs); Linear and nonlinear regression analysis (extension, mixed models, additive models); Cluster analysis; Generalized cluster analysis: EM algorithm; Time series analysis; Generalized Additive Models (GAM); Boosted Classification Trees; Neural networks
Assessment method	Task execution
Workshop	
Course Content: Topics and Scope of Classes	30 hours
Course Content: Topics and Scope of Classes	Data Processing and Analysis Performing practical tasks using methods discussed in earlier courses in the areas of: data acquisition, collection, and processing, conducting statistical analysis and modelling, using information technologies and available software.
Assessment method	Task execution
Workshop	
Course Content: Topics and Scope of Classes	30 hours
Course Content: Topics and Scope of Classes	Specialized Statistical Workshops Specificity of statistical analysis in a given discipline: Formulating hypotheses and designing experiments; Overview of the most commonly used statistical tools; Methods of data presentation
Assessment method	Task execution

Compulsory Module: Doctoral seminar

ECTS	2	Total number of hours	24
Semester	2; 4; 6; 8	including: lectures	-
		seminars	24
		workshops	-
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDS_W1	The current state of knowledge in the pursued scientific discipline	P8S_WG
SDS_W2	The most important and current research problems in various scientific disciplines	P8S_WG
SDS_W3	Civilizational dilemmas and developmental trends in research methods across different scientific disciplines	P8S_WK
SKILLS – is able to:		
SDS_U1	Formulate and justify the research problems undertaken	P8S_UW
SDS_U2	Use up-to-date knowledge in the given research discipline to justify the research problem and interpret results	P8S_UW
SDS_U3	Communicate on specialist topics, initiate debate, and participate in scientific discourse	P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDS_K1	Critical evaluation of one's own academic output and that of other researchers	P8S_KK
SDS_K2	Using up-to-date scientific knowledge to solve important environmental, social, and economic problems	P8S_KO

Content:

Seminar part 1		12	hours
Course Content:	<u>Current challenges of science</u>		
Topics and Scope of Classes	Current research challenges in the individual disciplines represented by the doctoral students; Preparation and delivery of a presentation on the state of knowledge and current challenges in the thematic area undertaken by the doctoral student		
Assessment method	Power point presentation		
Seminar part 2		12	hours
Course Content:	<u>Evaluation of scientific progress</u>		
Topics and Scope of Classes	Reporting current progress in scientific work at the end of each academic year during the general seminar of the doctoral school		
Assessment method	Power point presentation		

Compulsory Module: Higher Education Pedagogy

ECTS	2	Total number of hours	24
Semester	3; 4	including: lectures	4
		seminars	-
		workshops	20
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDP_W1	Principles and methods of teaching in higher education necessary for conducting academic classes	P8S_WG
SDP_W2	Principles of knowledge transfer in university teaching, including the use of distance-learning methods	P8S_WK
SKILLS – is able to:		
SDP_U1	Use knowledge from various fields of science to plan and conduct academic classes	P8S_UW P8S_UK
SDP_U2	Prepare and deliver teaching courses using information technology tools	P8S_UU P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDP_K1	Fulfilling social obligations in the education of managerial staff based on the latest scientific achievements	P8S_KO

Contents:

Lectures		4	hours
Course Content:	Teaching methods in higher education didactics		
Topics and Scope of Classes	Types of methods used in higher education didactics: lecture, seminar, talk, discussion and tribunal method, exercise and demonstration methods, educational game methods, situational method and brainstorming, project method		
Assessment method	Lesson plan draft		
Workshop		4	hours
Course Content:	Communication in Science and Higher Education – How to Speak So That We Are Heard?		
Topics and Scope of Classes	Presentations and speeches using visual aids; Motivating audiences to listen; Conducting conversations; Chairing and participating in scientific discussions; Effectively conducting classes with learners		
Assessment method	Assessment of class participation and activity		
Workshop		16	hours
	e-education		

Course
Content: Methodology of remote teaching; Forms of presentation in remote education;
Topics and Technical capabilities for conducting group training and educational software;
Scope of Structure of an e-learning course
Classes

Assessment method	Project of the e-learning course

Doctoral School

Compulsory module: Intellectual Property Law

ECTS	1	Total number of hours	8
Semester	5	including: lectures	4
		seminars	-
		workshops	4
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDJ_W1	Legal, ethical, and economic conditions for conducting scientific activity and disseminating its results	P8S_WK
SDJ_W2	Principles of commercializing the results of research and innovation activities	P8S_WK
SKILLS – is able to:		
SDJ_U1	Transfer research results to the economic and social sectors in compliance with legal principles	P8S_UW
SOCIAL COMPETENCES – is ready to:		
SDJ_K1	Act for the benefit of an innovative economy and society	P8S_KO

Contents:

Lectures	4	hours

Course	Copyright Law
Content:	
Topics and	Sources of law, subject matter of law, scope and principles of protection, principles
Scope of	of fair use of protected works
Classes	

Assessment method	Assessment of the activity during lectures

Warsztaty	4	hours

Course	<u>Industrial Property Law</u>
Content:	
Topics and	Inventions, utility models, industrial designs, trademarks, designations,
Scope of	semiconductor topographies, rationalization projects
Classes	

Assessment method	Final project / Project for course credit

Compulsory Module: Scientific English

ECTS	4 6	Total number of hours	80
Semester	1; 2; 6	including: lectures	-
		seminars	-
		workshops	50
		exercises	30
		Total self-work	

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDE_W1	Useful phrases and grammatical structures in a foreign language necessary for conducting scientific activity	P8S_WG
SDE_W2	Principles of preparing documentation and presentations in a foreign language	P8S_WG
SKILLS – is able to:		
SDE_U1	Communicate in a foreign language in a way that enables participation in scientific discourse	P8S_UK
SDE_U2	Prepare scientific articles and documentation in a foreign language using appropriate terminology	P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDE_K1	Continuous learning and improving language competences	P8S_KK

Contents:

Exercises		30	hours
Course	Specificity of Scientific English		
Content:			
Topics and			
Scope of	Useful phrases and grammatical structures		
Classes			
Assessment method	Written credit		
Workshop		50	hours
Course	Scientific English in Practice		
Content:	Preparing a professional CV; Writing and publishing a popular science article;		
Topics and	Preparing an application for an international research internship; Preparing and		
Scope of	publishing a short academic biography in English on the institution's website;		
Classes	Preparing for presentations at international scientific conferences; Chairing		
	conferences and discussion panels in English		
Assessment method	Project for course credit		

Compulsory Module: Joint Dissertation Colloquium

ECTS	5	Total number of hours	96
Semester	2; 3; 4	including: lectures	-
		seminars	96
		workshops	-
		exercises	-
		Total self-work	29

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDS_W1	The current state of knowledge in the pursued scientific discipline	P8S_WG
SDS_W2	The most important and current research problems across various scientific disciplines	P8S_WG
SDS_W2	Civilizational dilemmas and developmental trends in research methods across various scientific disciplines	P8S_WG
SKILLS – is able to:		
SDS_U1	Formulate and justify the research problems undertaken	P8S_UK
SDS_U2	Use up-to-date knowledge from the given research discipline to justify the research problem and interpret the results	P8S_UK
SDS_U3	Communicate on specialist topics, initiate debate, and participate in scientific discourse	P8S_UK P8S_UO
SOCIAL COMPETENCES – is ready to:		
SDS_K1	Critical evaluation of one's own academic output and that of other researchers	P8S_KK
SDS_K2	Using up-to-date scientific knowledge to solve important environmental, social, and economic problems	P8S_KO P8S_KR

Contents

Seminar part 1		32	hours
Course Content:	<u>Current challenges of science</u>		
Topics and Scope of Classes	Current research challenges in the individual disciplines represented by the doctoral students; Preparation and delivery of a presentation on the state of knowledge and current challenges in the thematic area undertaken by the doctoral student		
Assessment method	Task execution		
Seminar part 2 and 3		64	hours
Course Content:	<u>Presentation of the results obtained by the doctoral students and their critical analysis</u>		
Topics and Scope of Classes	Presentation of the research results obtained by the students in the year preceding the presentation. These results will be evaluated by a professional audience composed of supervisors, guests, and other students. The essence of the seminar is a professional discussion on the student's engagement, the results obtained, and the		

possibilities of their use, including practical applications and the publication of scientific articles. Through participation in the seminar, students will also become familiar with the research conducted by other doctoral candidates, which stimulates joint activities and the preparation of interdisciplinary projects and other initiatives. The colloquium will provide students with a deeper understanding of horticultural sciences

Assessment method	Task execution

Adequacy of the curriculum and the individual research plans (IPB) in relation to the learning outcomes for qualifications at PRK level 8 and their implementation

- a) adequacy of the learning outcomes defined in the curriculum to the learning outcomes for qualifications at PRK level 8

The curriculum of the SD at URK enables doctoral candidates to achieve all learning outcomes required for a full qualification at PRK level 8, including advanced knowledge, skills and social competences necessary for conducting independent scientific research and solving research problems. The programme is offered in Polish or English (a total of 512 hours, 38 ECTS) and consists of six compulsory modules: Conducting Research and Dissemination of Research Results, Research Methodology, Doctoral Seminar, Higher Education Pedagogy, Intellectual Property Law, and Scientific English. Elective modules include Specialist and Interdisciplinary Seminars, Programme-Specific Courses, Foreign Research Internships, and International Conferences. The final element of the programme is a professional placement.

The learning outcomes for each compulsory module (21 ECTS in total) are clearly formulated in syllabi and aligned with the specific learning outcomes at PRK level 8. A summary of compulsory modules and the learning outcomes they realize is provided in Table 1 (column 2). Tools and methods for achieving PQF level 8 learning outcomes include the compulsory modules as well as elective activities (programme-specific courses and other activities). Compulsory modules are delivered in the form of lectures, workshops, seminars and exercises. Elective programme-specific courses (4 ECTS over 4 years) are chosen by the doctoral candidate in consultation with the supervisor to individualize the training and deepen discipline-specific knowledge related to the candidate's dissertation topic. The selection of specialist classes must be made at least one month before the start of the semester and approved by the Director of the Doctoral School. Other activities that support the realisation of PRK level 8 learning outcomes include participation in conferences (4 ECTS), specialist and interdisciplinary seminars (including those led by international experts and practitioners, 5 ECTS), and research internships (4 ECTS). These activities allow doctoral candidates to develop critical thinking, creativity, initiative, problem-solving skills, risk assessment, decision-making abilities, and competencies related to conducting scientific research.

The measurability and verifiability of learning outcomes are ensured through assessment methods aligned with the intended outcomes, such as presentations (e.g., on current research challenges in specific disciplines or on research progress), preparation of a sample scientific article, statistical analysis tasks, Scientific English projects, quizzes, preparation of teaching outlines, development of e-learning courses, written examinations, and submission of relevant certificates (e.g., for specialist courses, including those completed abroad).

The learning outcomes formulated for the SD programme are consistent with the nature of the scientific disciplines in which the doctoral degree may be awarded. Based on a 2017 agreement between URK

and Mendel University in Brno, the SD also educates doctoral candidates under the European Horticulture Training Programme (Eurohort). The programme is coherent with the main curriculum; the only differences concern: (1) the minimum number of ECTS points (40), resulting from programme-specific courses (including those conducted at the partner university) amounting to 72 hours over the study period compared to 60 hours in the main programme; (2) replacing specialist and interdisciplinary seminars with the Joint Dissertation Colloquium module.

Draft curricula are developed by the SD Council and, after consultation with the Doctoral Students' Council, submitted to the Senate for approval. The selection of lecturers is also reviewed by the SD Council. Learning outcomes related to global scientific achievements and discipline-specific knowledge, as well as methodologies and principles for disseminating research results, are realized in modules such as Conducting Research and Dissemination of Research Results, Research Methodology, and the Doctoral Seminar. Fundamental challenges of modern civilization and economic, legal and ethical aspects of scientific activity are addressed in modules such as Higher Education Pedagogy, Intellectual Property Law, and the Joint Dissertation Colloquium.

Skills related to defining research objectives, formulating hypotheses, developing research methods, drawing conclusions, critically evaluating research results, and transferring them to the economic and social spheres are acquired mainly through the modules Conducting Research and Dissemination of Research Results, Research Methodology, and Intellectual Property Law. These modules, along with Scientific English, Higher Education Pedagogy, and the Joint Dissertation Colloquium, also foster communication skills appropriate for an international scientific environment, as well as organizational, planning and teamwork skills.

Teaching modules employ methods that encourage the development of social competences. Examples include courses on organizing scientific events and applying for research funding. A significant proportion of classes is conducted as seminars, discussions and workshops, which further develop competences such as critical evaluation of scientific achievements and one's own contribution to the discipline, entrepreneurial thinking, independence, respect for public ownership of research results, and fulfilment of social responsibilities.

- b) adequacy of the scientific activities of doctoral candidates and dissemination of their results, as defined in the IPB, to the learning outcomes for qualifications at PRK level 8

The University body indicated in the Statute as responsible for awarding the doctoral degree appoints a supervisor or supervisors for the doctoral candidate within three months from the start of training in the SD. The application for appointing a supervisor is submitted by the doctoral candidate to the SD office within one month of commencing training. In consultation with the supervisor, the doctoral candidate prepares the IPB, which, in accordance with the SD regulations, contains the schedule and scope of research activities and the

timetable for preparing and submitting the doctoral dissertation. The IPB must be submitted at least one month before the end of the first year of study and is then evaluated by a designated committee. The committee assesses the correctness and feasibility of the dissertation timetable, the scientific merits of planned research tasks, and the correctness of plans related to designing and conducting scientific projects.

During the studies, implementation of the IPB is evaluated after the 4th semester (mid-term evaluation; OŚ), and then after the 6th, 7th and 8th semesters. Elements of the IPB closely linked to solving research problems specified in the dissertation include: a concise description of the dissertation concept, hypotheses and scientific objectives, justification of the research problem, research tasks, description of research methods, a schedule of research tasks with start times, duration and indication whether tasks will be completed before or after the mid-term evaluation, and a bibliography. The IPB also includes planned scientific activities such as research internships, preparation of publications and conference contributions, funding sources, grant applications, and the planned date for dissertation submission, as well as the supervisor's opinion and the SD Director's opinion. Learning outcomes at PRK level 8 are achieved through the preparation and implementation of each of these IPB components. Implementation is regularly monitored by designated committees. The alignment of scientific activities and dissemination tasks with specific learning outcomes at PQF level 8 is presented in Table 1 (column 3).

The requirement for dissemination activities in the IPB is reflected in the obligation to plan and carry out an active contribution (oral or poster presentation) during scientific conferences. In addition, according to SD regulations, the doctoral candidate must publish at least two scientific papers (articles or book chapters). The candidate's development pathway is further strengthened by the obligation to submit at least one research grant application (SD requirement) and the requirement to participate in at least two international scientific conferences (curriculum requirement). Internationalization of research and increased academic mobility are ensured through the recommended minimum one-month foreign research internship related to the dissertation, as well as participation in at least two international conferences, including one held abroad. According to SD regulations, a doctoral dissertation written in Polish must include an abstract in English, and a dissertation written in a foreign language must include an abstract in Polish. When the dissertation is not a written work, a description must be provided in both Polish and English. The IPB template is available in both languages. Reports on IPB implementation may also be prepared in Polish or English. Evaluation of cooperation between the doctoral candidate and the supervisor is conducted alongside the mid-term evaluation based on the Scientific Supervision Assessment Report, which forms an annex to the SD regulations, as well as interviews of the evaluation committee with the supervisor(s) and the student.

In summary, learning outcomes related to advanced knowledge—both general and discipline-specific—including methodology, dissemination principles, and economic, legal and ethical considerations, are achieved through developing dissertation hypotheses and objectives, analyzing existing knowledge (including originality and contribution to the discipline), formulating research tasks and describing research methods. Research activities contributing to these learning outcomes include preparing scientific publications, grant

applications, patent applications, participation in national and international conferences, and preparing the doctoral dissertation. Skills related to specialist scientific communication, learning, planning personal development, and supporting the development of others are developed through activities such as domestic and international research internships, teaching practice, participation in summer schools and scientific workshops, and conference presentations. Skills related to work organization are developed through planning research tasks and preparing the dissertation schedule, followed by conducting research. Social competences related to evaluation and critical reflection are realized through preparing the justification for the dissertation topic, writing publications, preparing grant applications and implementing research projects. Social competences related to public engagement are developed mainly through preparing popular science publications and participating in public events promoting science (e.g., Researchers' Night, Insect Day). Preparing publications and participating in conferences support social competences related to professional integrity, independence and adherence to the ethos of research communities.

- c) implementation of the curriculum and IPB for achieving the learning outcomes for qualifications at PRK level 8

The SD curriculum, approved by the URK Senate following consultation with the SD Council and the Doctoral Students' Council, is published no later than five months before the start of recruitment. It includes:

- a general description of the programme (Sections 1–10),
- Annex 1 – learning outcomes based on the Regulation of the Ministry of Science and Higher Education of 14 November 2018 for PRK level 8,
- Annex 2 – the framework plan of compulsory classes with ECTS and contact hours by course type,
- Annex 3 – the ECTS and workload balance,
- Annex 4 – syllabi of the six compulsory modules.

Syllabi include ECTS value, number of hours and form of delivery, learning outcomes specific to the module, a detailed description of course content, and methods for verifying learning outcomes. Foreign language instruction is delivered during semesters 1, 2 and 6 for a total of 80 hours (30 hours of exercises and 50 hours of workshops). It covers general language use (useful expressions and grammar structures) as well as practical academic tasks (preparing a CV, popular science article, conference presentation, etc.). The curriculum provides for professional practice in the form of teaching or co-teaching, amounting to 24 hours in the second year and 30 hours each in the third and fourth years (84 hours total over four years).

- d) implementation of interdisciplinarity in the educational process to achieve the learning outcomes for qualifications at PRK level 8

As part of interdisciplinary education, doctoral candidates take courses not only within their discipline but also from other scientific fields, enabling creative identification and innovative solving of complex research problems through interdisciplinary teamwork and broadening their understanding of the world. Compulsory modules are common to all disciplines represented in the SD. Doctoral candidates may prepare interdisciplinary dissertations whose scope extends beyond a single discipline. In such cases, two supervisors representing both disciplines are appointed. Interdisciplinarity is also implemented through inter-university cooperation (e.g., the European Horticulture programme; Eurohort). Supervisors support doctoral candidates in seeking and undertaking collaboration—international and inter-institutional (research internships, grant projects)—which often has an interdisciplinary nature and increases the likelihood of securing research funding.

- e) reliability of the process of improving the curriculum to enhance its adequacy to the learning outcomes for qualifications at PRK level 8

Improvement of the curriculum in relation to PRK level 8 learning outcomes is the responsibility of the SD Quality Assurance Committee. The committee prepares annual self-assessment reports identifying possible corrective and preventive actions. The current SD curriculum was introduced in 2021. Previously, the 2019 curriculum was in force. Improvements to the curriculum have included increasing the number of specialist elective classes (from 228 to 240 hours), particularly programme-specific courses, to better tailor learning outcomes to individual doctoral needs. The number of hours devoted to research methodology (data analysis) was also increased.

Self-assessment

In summary, the SD curriculum and IPBs at URK ensure full achievement of the learning outcomes for qualifications at PRK level 8.

Table 1. Alignment of learning outcomes for qualifications at PRK level 8 with the course modules in the SD curriculum and with the scientific activities and dissemination tasks specified in the IPB.

Column 1	2	3
Learning outcomes for qualifications at PRK level 8	Modules in the SD curriculum implementing learning outcomes at PRK level 8	Doctoral candidates' research activities and dissemination of results, as specified in the IPB, implementing learning outcomes at PRK level 8
Knowledge: knows and understands Scope and depth – completeness of cognitive perspective and relationships (P8S_WG) - to the extent enabling revision of existing paradigms – the global body of knowledge, including theoretical foundations, general issues and selected specific issues relevant to the given scientific or artistic discipline - the main developmental trends of the scientific or artistic disciplines in which education is provided - research methodology - principles of disseminating research results, including in open access	Conducting Research and Dissemination of Research Results Research Methodology Doctoral Seminar Scientific English Joint Dissertation Colloquium	• formulation of hypotheses and research objectives of the doctoral dissertation (DD) • preparation of the justification for the dissertation topic, including current state of knowledge, originality and innovativeness, and the significance for the development of the discipline • formulation of research tasks for the DD • description of research methods for the DD • preparation of scientific publications • preparation and implementation of grant applications (external, e.g., NCN, or internal URK Rector's funds) • preparation of patent applications • participation in national and international conferences (oral presentations, posters) • preparation of the doctoral dissertation
Context – conditions and consequences (P8S_WK) - fundamental dilemmas of contemporary civilization - economic, legal, ethical and other key conditions of scientific activity - basic principles of knowledge transfer to the economic and social spheres and of commercialization of research results and related know-how	Higher Education Pedagogy Intellectual Property Law Joint Dissertation Colloquium	• preparation of scientific publications • preparation and implementation of grant applications • preparation of patent applications • participation in national and international conferences (oral presentations, posters) • preparation of the doctoral dissertation
Skills: is able to	Conducting Research and Dissemination of Research Results Research Methodology	• formulation of hypotheses and research objectives of the DD • formulation of research tasks

Use of knowledge – problems solved and tasks performed (P8S_UW) - use knowledge from various fields of science or art to creatively identify, formulate and innovatively solve complex problems or perform research tasks, in particular to: - define the aim and subject of research, formulate a research hypothesis - develop research methods, techniques and tools and apply them creatively - draw conclusions based on research results - critically analyze and evaluate research results, expert activities and other creative work and their contribution to the development of knowledge - transfer research results to the economic and social spheres	Higher Education Pedagogy Intellectual Property Law Joint Dissertation Colloquium	• description of research methods • preparation of scientific and popular science publications • preparation and implementation of grant applications • preparation of patent applications • participation in national and international conferences (oral presentations, posters) • preparation of the doctoral dissertation
Communication – receiving and producing statements, disseminating knowledge in the scientific community, and using a foreign language (P8S_UK) - communicate on specialist topics at a level enabling active participation in the international scientific community - disseminate research results, including in popular forms - initiate debate - participate in scientific discourse - use a foreign language at level B2 of the Common European Framework of Reference for Languages, enabling participation in the international scientific and professional environment	Conducting Research and Dissemination of Research Results Higher Education Pedagogy Scientific English Joint Dissertation Colloquium	• preparation of scientific and popular science publications • domestic and international research internships • participation in national and international conferences (oral presentations, posters)
Work organization – planning and teamwork (P8S_UO) - plan and carry out individual and team research or creative projects, including in an international environment	Conducting Research and Dissemination of Research Results Research Methodology	• formulation of research tasks for the DD • preparation of the schedule for the implementation of research tasks • preparation of the doctoral dissertation

Learning – planning one’s own development and the development of others (P8S_UU) - independently plan and act for one’s own development and inspire and organize the development of others - plan courses or groups of classes and deliver them using modern methods and tools	Conducting Research and Dissemination of Research Results Higher Education Pedagogy Joint Dissertation Colloquium	• domestic and international research internships • professional practice – conducting teaching activities • participation in summer schools and scientific workshops
Social competences: is ready to Evaluation – critical approach (P8S_KK) - critically evaluate achievements within a given scientific or artistic discipline - critically evaluate one’s own contribution to the development of the discipline - recognize the importance of knowledge in solving cognitive and practical problems	Conducting Research and Dissemination of Research Results Research Methodology Scientific English Joint Dissertation Colloquium	• preparation of justification for the dissertation topic, including state of knowledge, originality, innovativeness and significance for the discipline • preparation of scientific publications • preparation and implementation of grant applications • preparation of the doctoral dissertation
Responsibility – fulfilling social obligations and acting for the public interest (P8S_KO) - fulfil the social obligations of researchers and creators - initiate actions for the public interest - think and act in an entrepreneurial manner	Conducting Research and Dissemination of Research Results Higher Education Pedagogy Intellectual Property Law Joint Dissertation Colloquium	• preparation of scientific publications • preparation of popular science articles • participation in events promoting scientific achievements to the general public (Researchers’ Night, Insect Day, etc.) • preparation and implementation of grant applications
Professional role – independence and development of ethos (P8S_KR) - uphold and develop the ethos of research and creative communities, including: - conducting scientific activity independently - respecting the principle of public ownership of research results, in compliance with intellectual property protection rules	Conducting Research and Dissemination of Research Results Intellectual Property Law	• preparation of scientific and popular science publications • participation in national and international conferences (oral presentations, posters)



Indywidualny Plan Badawczy Individual Research Plan

DATA ZŁOŻENIA / DATE OF SUBMISSION _____

Część I / Part I

IMIĘ I NAZWISKO / NAME AND SURNAME
DATA ROZPOCZĘCIA KSZTAŁCENIA W SZKOLE DOKTORSKIEJ / DATE OF COMMENCEMENT OF EDUCATION AT DOCTORAL SCHOOL
DYSCYPLINA / DISCIPLINE
KATEDRA / DEPARTMENT
PROMOTOR(-RZY) / SUPERVISOR(S) 1. 2.
PLANOWANY TYTUŁ ROZPRAWY DOKTORSKIEJ / PLANNED TITLE OF PhD THESIS



**SKRÓCONY OPIS KONCEPCJI ROZPRAWY DOKTORSKIEJ / BRIEF DESCRIPTION OF THE
CONCEPT OF PhD THESIS**

(do 500 słów / up to 500 words)

(czcionka 10, Arial, odstęp 1, odstępy przed/po 0/0)

(font 10, Arial, space 1, spacing before/after 0/0)



Część II / Part II

Do 10 stron maszynopisu (z literaturą) – czcionka 10, Arial, odstęp 1, odstępy przed/po 0/0
Up to 10 pages (including references) – font 10, Arial, space 1, spacing before/after 0/0

HIPOTEZY I CELE NAUKOWE / RESEARCH HYPOTHESIS AND AIMS

UZASADNIENIE WYBORU PROBLEMU BADAWCZEGO / JUSTIFICATION OF CHOOSING A RESEARCH PROBLEM

(dotychczasowy stan wiedzy, oryginalność i nowatorstwo, znaczenie wyników projektu dla rozwoju dyscypliny naukowej)
(current state of knowledge, justification of choosing a research problem, novelty, importance for the development of the scientific discipline)

ZADANIA BADAWCZE / WORK PLAN

L.p. No.	Nazwa zadania badawczego Research tasks	Krótki opis Short description

METODY BADAŃ / METHODS

L.p. No.	Nazwa zadania badawczego Research tasks	Krótki opis metodyki badań Short description of the methods used

HARMONOGRAM REALIZACJI ZADAŃ BADAWCZYCH / RESEARCH SCHEDULE:

L.p. No.	Nazwa zadania badawczego Research task	Rozpoczęcie zadania Start at		Czas trwania (miesiące) Duration (months)	Zakończenie przed (1) lub po ocenie śródkresowej (2) Ended before (1) or after (2) mid-term evaluation <i>1 lub 2 / 1 or 2</i>
		Rok kształcenia Year of study	Semestr Semester		



WYKAZ LITERATURY / LITERATURE



Część III / Part III

PLANOWANE STAŻE BADAWCZE / INTERNSHIPS

(wskazać miejsce i planowany termin realizacji stażu)
(indicate the planned place and date of internship)

PLAN PRZYGOTOWANIA PUBLIKACJI NAUKOWYCH / PLANNED PEER REVIEWED PUBLICATIONS:

(podać orientacyjną liczbę publikacji, ich rodzaj, tematykę, orientacyjne terminy przygotowania, czasopismo lub wydawnictwo, kolejność publikowania)
(indicate the number of publications, types, subjects, planned date of submissions; journal; publication sequence)

PLAN WYSTĄPIEŃ KONFERENCYJNYCH / CONFERENCE PRESENTATIONS:

(planowane wystąpienia na konferencjach naukowych)
(planned presentations on scientific conferences, symposiums, etc.)

ZRÓDŁA FINANSOWANIA BADAŃ / SOURCE OF FUNDING

(grant – numer, tytuł, kierownik, nazwa instytucji finansującej, nazwa konkursu, okres finansowania; inne źródła finansowania)
(grant - number, title, supervisor, name of funding institution, name of grant competition, duration; other sources of funding)



PLAN APLIKACJI GRANTOWYCH DOKTORANTA / PLANNED GRANT APPLICATIONS OF PhD STUDENT

(wskazać typ konkursu krajowego lub międzynarodowego, orientacyjny tytuł projektu, rok aplikacji)
(indicate the type of grant competition – national or international, planned title of the project, year of application)

PLANOWANA DATA ZŁOŻENIA ROZPRAWY DOKTORSKIEJ / PLANNED DATE OF PhD THESIS SUBMISSION

PODPIS DOKTORANTA
SIGNATURE OF PhD STUDENT

OPINIA PROMOTORA (-ÓW) / OPINION OF THE SUPERVISOR (-S)

(do 500 słów / up to 500 words)

PODPIS (-Y) / SIGNATURE (-S)



OPINIA DYREKTORA SZKOŁY DOKTORSKIEJ
OPINION OF THE HEAD OF DOCTORAL SCHOOL

(do 500 słów / up to 500 words)

PODPIS / SIGNATURE

**Resolution No. 1/2024
of the Senate of the Hugo Kołłątaj University of Agriculture in Kraków
of 12 January 2024**

Concerning: an amendment to the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków

In an open vote, the Senate adopted Resolution No. 1/2024 with the following wording:

Pursuant to Article 205(2) of the Act of 20 July 2018 – Law on Higher Education and Science (consolidated text: Journal of Laws of 2023, item 742, as amended), in connection with § 18(1)(9) of the University Statute of 28 June 2021 (consolidated text of 20 December 2023),

upon the motion of the Rector, following consultation with the Doctoral Students' Self-Government,

- 1. The Senate of the Hugo Kołłątaj University of Agriculture in Kraków amends Senate Resolution No. 23/2023 of 29 March 2023 on the adoption of the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków – as follows:**
 - 1. in § 7 of Annex No. 1 to Senate Resolution No. 23/2023, paragraph 5 is added, reading as follows:**
 - 5. At the request of the Director of the Doctoral School, the Rector may appoint a Deputy Director of the Doctoral School and define his/her responsibilities.**
- 2. This Resolution enters into force on the date of its adoption.**

Eligible voters: 40 members of the Senate;

Votes cast: 30.

Valid votes: 30, all in favour.

Chairman of the Senate

dr hab. inż. Sylwester Tabor, Prof. URK

Regulations of the Doctoral School

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Subject of the Regulations

§ 1

The Hugo Kołłątaj University of Agriculture in Kraków, hereinafter referred to as the University, is the entity operating the Doctoral School, established pursuant to the Act of 20 July 2018 – Law on Higher Education and Science and the University Statute.

§ 2

1. At the University, doctoral students pursue education at the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków, hereinafter referred to as the Doctoral School.
2. The Doctoral School is established by the Rector.
3. Whenever these Regulations refer to:
 1. the Act – this shall mean the Act of 20 July 2018, Law on Higher Education and Science, which defines the principles of doctoral education and the conditions for awarding the doctoral degree;
 2. the University – this shall mean the Hugo Kołłątaj University of Agriculture in Kraków;
 3. the Statute – this shall mean the Statute of the Hugo Kołłątaj University of Agriculture in Kraków, which defines the principles of organization and functioning of the University, including the rules for organizing education and conducting research;
 4. the Rector – this shall mean the single-person governing body of the University, whose competences include managing the University and issuing regulations and administrative decisions, including those concerning doctoral students;
 5. the Senate – this shall mean the collegial body of the University, representing the highest authority of its community, whose competences include adopting resolutions, including those relating to doctoral education;
 6. the semester – this shall mean the stage of education defined in the organization of the academic year, ending with the requirement to obtain all credits and examinations specified in the education program for this stage, and to settle tasks scheduled for implementation during this period, including those in the individual research plan;
 7. the university IT system – this shall mean the IT system used, among other things, for the management and documentation of education at the Doctoral School;
 8. the Regulations – this shall mean these Regulations of the Doctoral School.
4. The tasks of the Rector specified in the Regulations may, at the University, be carried out by a Vice-Rector holding a managerial position, whose responsibilities include matters related to doctoral education.

§ 3

1. The Regulations define the rules for organizing the education of doctoral students and the principles of operating the Doctoral School.
2. The Regulations specify in particular:

1. the organizational structure and scope of competences of the bodies of the Doctoral School;
 2. the rules for undertaking and resigning from education at the Doctoral School;
 3. the procedure for appointing and changing the supervisor, supervisors, or assistant supervisor;
 4. the procedure for preparing and evaluating the individual research plan and the method of conducting a mid-term assessment of its implementation, including the procedure for appointing and the principles of functioning of the committees carrying out such assessments;
 5. the procedures and criteria for evaluating progress in preparing the doctoral dissertation;
 6. the rules for passing the subjects provided for in the education program, including teaching practice where the obligation to undertake it arises from the program;
 7. the rules for submitting the doctoral dissertation, including the conditions for extending the submission deadline;
 8. the method of documenting the course of education.
3. The Regulations define the rights and obligations of the doctoral student, including the rules for granting leaves.
 4. The University's doctoral students form a doctoral student self-government. The representative body of all doctoral students of the University is the relevant doctoral student self-government body, hereinafter referred to as the doctoral student self-government, which operates in accordance with the Act, the Statute, and the regulations of the doctoral student self-government.
 5. Unless otherwise provided in the Regulations, applications (declarations, appeals, etc.) submitted by doctoral students should be submitted in writing, in electronic form (with a qualified electronic signature), in electronic form with a trusted or personal signature, in electronic form via email within the urk.edu.pl domain, or through the university IT system.
 6. In the case of applications for reconsideration of cases concerning administrative decisions and appeals against administrative decisions, the form specified in accordance with the Administrative Procedure Code shall apply.
 7. Unless otherwise stated in the Regulations or the Act, the deadlines established in the Regulations may be postponed or reinstated upon a justified request from the doctoral student, particularly due to health-related reasons.

Aims and Tasks

§ 4

1. The Doctoral School enables doctoral students to pursue interdisciplinary education and to acquire high research competencies and scientific independence within a specific scientific discipline, in accordance with the authorizations held by the University:
 1. in the field of agricultural sciences, in the scientific disciplines of:
 - forestry;
 - agriculture and horticulture;

- food technology and nutrition;
- animal science and fisheries;
- 2. in the field of engineering and technical sciences, in the scientific disciplines of:
 - civil engineering, geodesy and transport;
 - mechanical engineering;
 - environmental engineering, mining and energy;
- 3. in the field of social sciences, in the scientific discipline of economics and finance;
- 4. in the field of exact and natural sciences, in the scientific discipline of biological sciences;
- 5. in the field of veterinary sciences, in the discipline of veterinary science.
- 2. Education of doctoral students at the Doctoral School lasts 8 semesters. It is conducted based on education programs and an individual research plan, and concludes with the submission of the doctoral dissertation.

§ 5

1. The Doctoral School prepares the doctoral student for research and research-and-development work. It ensures the possibility for the doctoral student to develop their own creative initiatives.
2. In particular, the Doctoral School provides conditions for full participation in education and scientific research as well as in the life of the University and the academic community, including:
 1. education within an interdisciplinary education program, consisting of compulsory and elective classes;
 2. conducting independent scientific research in accordance with the individual research plan;
 3. preparing scientific publications by the doctoral student;
 4. preparing the doctoral dissertation under the supervision of a supervisor or supervisors, or a supervisor or supervisors and an assistant supervisor.
3. Education at the Doctoral School enables doctoral students to achieve learning outcomes appropriate to full qualifications at level 8 of the Polish Qualifications Framework, as referred to in the provisions on the Integrated Qualifications System, in the form of:
 1. advanced knowledge significantly influencing the development of the discipline related to the area of scientific research conducted, including the latest scientific achievements;
 2. skills related to the methodology and methods of conducting scientific research, as well as analysis and creative synthesis of scientific output, for identifying and solving research problems and creating new elements of this output;
 3. social competencies relating to scientific research activities and the social role of the scholar, including the ability to undertake challenges in the professional and public spheres with consideration of their ethical dimension.
4. The Doctoral School supports the development of the doctoral student and, in this respect:

1. is open to cooperation with other doctoral schools and enables doctoral students to participate in classes included in the education programs of those schools;
2. undertakes actions to promote the exchange of scientific ideas and cooperation in research teams, including international ones;
3. provides conditions for participation in the scientific community in Poland and abroad.

§ 6

In the event of discontinuation of education in a given discipline, the University ensures that doctoral students preparing a doctoral dissertation in that discipline may continue their education at another doctoral school in that discipline. If no such doctoral school exists, the University shall cover the costs of the doctoral procedure in the extramural mode for persons who have lost the possibility to complete their education.

Organizational Structure

§ 7

1. The Doctoral School is a university-wide unit.
2. The Doctoral School is managed by the Director of the Doctoral School.
3. The Doctoral School includes the Doctoral School Council.
4. The Director and the Doctoral School Council are appointed by the Rector, in accordance with the procedure specified in the Statute.

§ 8

1. The Director of the Doctoral School holds a managerial position at the University and is responsible for matters concerning doctoral students related to education at the Doctoral School.
2. In particular, the Director of the Doctoral School:
 1. chairs the Doctoral School Council;
 2. represents the unit within the University;
 3. submits motions to relevant University bodies in all matters concerning the unit;
 4. supervises the implementation of education programs at the Doctoral School;
 5. submits motions to relevant University bodies regarding activities related to the appointment and change of supervisor(s) and assistant supervisor, as well as the assessment of the progress of research and the doctoral dissertation conducted by doctoral students.
3. The Director organizes the work of the Doctoral School and, in this respect:
 1. ensures proper working conditions in the unit, particularly in accordance with occupational health and safety principles;
 2. ensures the proper and rational use of the unit's property, including by providing opportunities to use its infrastructure and assets;
 3. performs other activities provided for by law, the provisions of the Statute, as well as resolutions and ordinances of the University bodies.

4. After obtaining the opinion of the body specified in the Statute and the opinion of the doctoral student self-government, the Director of the Doctoral School submits to the Senate motions regarding the establishment, closing, and amendments to education programs at the Doctoral School.
5. After obtaining the opinion of the Doctoral School Council, the Director of the Doctoral School:
 1. submits to the Rector, by 31 December of a given year, an annual report on the activities of the Doctoral School;
 2. in consultation with the doctoral student self-government, submits motions to the Senate regarding amendments to the Regulations;
 3. prepares and submits to the Senate a draft of admission rules for the Doctoral School;
 4. prepares the Doctoral School for evaluation.
6. The Director is responsible for the financial management of the Doctoral School and, in this respect, is obliged to implement the University's material and financial plan.

§ 9

1. The Doctoral School Council exercises substantive supervision over the education of doctoral students. It serves as an advisory body to the Rector in matters carried out by the Doctoral School.
2. The tasks of the Council include, in particular:
 1. issuing opinions on the Regulations of the Doctoral School;
 2. developing a draft of the education programs in the Doctoral School;
 3. issuing opinions on the draft admission rules to the Doctoral School;
 4. issuing opinions on reports by the Director of the Doctoral School;
 5. issuing opinions on organizational changes within the Doctoral School;
 6. exercising substantive supervision over education in the Doctoral School and over the system of quality assurance of education at the Doctoral School.
3. The Doctoral School Council issues opinions on the assignment of classes to academic staff and other persons conducting education in the Doctoral School.
4. The Doctoral School Council initiates and undertakes actions to ensure high quality of education in the Doctoral School, in particular by evaluating the conducted classes and assessing the learning outcomes achieved by doctoral students.
5. The principles for evaluating the effectiveness of the University's quality assurance system are defined in the regulations on the University's education quality system.

§ 10

1. The administrative and organizational support of the Doctoral School is provided by the Doctoral School Secretariat.
2. The Doctoral School Secretariat also carries out tasks related to documenting the course of education in the Doctoral School.

Commencement of Education

§ 11

1. Admission to the Doctoral School is conducted through a competitive process, under the rules defined by the Senate. The results of the competition are public.
2. Admission to the Doctoral School is effected by entry into the list of doctoral students.
3. Refusal of admission to the Doctoral School is issued by administrative decision. A negative decision may be appealed by submitting a request for reconsideration of the case.
4. Commencement of education and the acquisition of doctoral student rights occurs at the moment of taking the oath. The wording of the oath is specified in the Statute.
5. Failure to take the oath within the designated deadline is equivalent to resignation from undertaking education at the Doctoral School.
6. A person may be a doctoral student in only one Doctoral School at a time.
7. No fees are charged for the education of doctoral students.
8. Education of a doctoral student concludes with the submission of the doctoral dissertation.

§ 12

1. At the University's Doctoral School, education may also be undertaken by:
 1. doctoral students from other doctoral schools – based on an agreement concluded between the University and the entity operating the School, under the rules defined in that agreement;
 2. international doctoral students, including those participating in international exchange programs, based on:
 - the decision of the minister,
 - international agreements, including those concluded by the University, under the rules defined in those agreements,
 - the decision of the Director of NAWA in relation to its scholarship holders,
 - the decision of the Director of NCN granting financial resources for the implementation of basic research in the form of a research project, internship, or scholarship awarded through a competitive process,
 - the administrative decision of the Rector.

Rights and Obligations of the Doctoral Student

§ 13

1. The doctoral student is obliged to act in accordance with the oath, these Regulations, and other generally applicable legal provisions and internal regulations in force at the University.
2. The doctoral student is obligated to uphold the principles of scientific ethics.
3. All rights and obligations of the doctoral student expire on the date of removal from the list of doctoral students.

4. For violations of the regulations in force at the University and for conduct unbecoming of a doctoral student, the doctoral student bears disciplinary responsibility as defined by separate regulations.

§ 14

1. The doctoral student has the right to:
 1. acquire knowledge as part of interdisciplinary education and develop their own scientific interests, including outside the University;
 2. receive scientific supervision and conduct research, as well as participate in research work carried out at the University;
 3. participate in national and international conferences related to the implementation of the individual research plan and doctoral dissertation;
 4. use the University's educational facilities, sports facilities, equipment and resources, as well as receive assistance from academic teachers and University authorities;
 5. join doctoral student organizations at the University under the rules defined in separate regulations;
 6. social insurance and universal health insurance under the rules defined in separate regulations;
 7. receive awards and distinctions; the rules for granting them are defined in a separate regulation;
 8. receive a doctoral scholarship under the rules defined in the Act;
 9. extend education at the Doctoral School under the rules defined in the Act;
 10. access personal data concerning themselves administered by the University, to correct and modify this data, and to exercise other rights arising from personal data protection regulations.
2. The doctoral student has the right to submit applications to the Director of the Doctoral School concerning their education at the School, including applications for a change of supervisor or assistant supervisor and a change of the deadline for submitting the doctoral dissertation.
3. With the consent of the Director of the Doctoral School, the doctoral student may:
 1. carry out part of their doctoral work outside the University;
 2. undertake national and international research internships.Obtaining consent requires the opinion of the supervisor or supervisors.
4. The doctoral student is entitled to participate in classes conducted at the University that are not included in the Doctoral School's curriculum, provided prior consent is obtained from the instructor.
5. The University unit in which the doctoral student conducts research provides support for the doctoral student's independent research work throughout their education at the Doctoral School, including during their stay abroad.

§ 15

1. The doctoral student may apply for accommodation in a student residence hall or for meals at the University's student cafeteria under the terms and procedures specified in the regulations for student benefits. Under the same

conditions, the doctoral student may apply for accommodation of their spouse, child, or personal assistant in the University residence hall.

2. The doctoral student may receive a student loan under the rules defined in the Act.

§ 16

1. The doctoral student should have an identifier for authors and co-authors of scientific publications – ORCID (Open Researcher and Contributor ID).
2. The responsibilities of the doctoral student include, in particular:
 1. implementation of the curriculum and individual research plan;
 2. participation in classes provided in the curriculum;
 3. preparation of the individual research plan in agreement with the supervisor or supervisors and submission of it to the Doctoral School's secretariat within the required deadline;
 4. conducting their own scientific research;
 5. submission of complete reports and applications within the required deadlines;
 6. participation or co-participation in the scientific and research work of the unit in which the individual research plan and doctoral dissertation are carried out;
 7. participation in scientific seminars at the University unit where the doctoral student conducts research;
 8. participation in scientific seminars organized at the University concerning issues relevant to the scientific discipline in which the doctoral dissertation is carried out;
 9. preparation and submission of the doctoral dissertation within the deadline specified in the doctoral student's individual research plan.
3. During the period of education, the doctoral student is required to:
 1. publish as author or co-author at least 2 works, including:
 - scientific articles published in a scientific journal or in peer-reviewed proceedings of an international conference, or in a scientific monograph, or
 - chapters in such a monograph published by a publishing house that, in the year of publication of the final form, was included in the list prepared in accordance with the provisions defined in the Act;
 2. prepare and submit at least 1 application for a research grant:
 - as part of a project, program, or competition announced by NAWA, NCBiR, NCN, or in an international competition for the implementation of a research project, or a research or teaching project financed from the European Union budget or by another grant-awarding entity.
4. The doctoral student is required to notify the Director of the Doctoral School in writing of any changes to personal data collected in the University's IT system immediately, but no later than within 1 month of the change.
5. In exceptional cases, the doctoral student may carry out their education under an individual study mode. Consent for this mode is granted, upon the doctoral student's request, by the Director of the Doctoral School after obtaining a positive opinion from the supervisor or supervisors, as well as the Doctoral School Council. The individual study mode may be carried out for no longer

than 2 semesters. The rules of the individual study mode for the doctoral student are defined by the Director of the Doctoral School.

§ 17

1. The doctoral student is entitled to rest breaks and leaves.
2. Rest breaks not exceeding 8 weeks per year should be taken during periods free from teaching activities and their dates agreed with the supervisor or supervisors.
3. At the request of the doctoral student, the Director of the Doctoral School suspends education for the period of maternity leave, maternity leave equivalent, paternity leave, and parental leave as defined in separate regulations.
4. The doctoral student may not be employed as an academic teacher or research staff. This prohibition does not apply to the employment of the doctoral student:
 1. for the purpose of carrying out a research project financed in competitions by NAWA, NCBiR, NCN, from the European Union budget, or by another grant-awarding entity;
 2. after a mid-term evaluation completed with a positive result, provided that in the case of employment exceeding half of the full-time working hours, the amount of the scholarship is 40% of the monthly scholarship amount referred to in section 4 point 2;
 3. who is not entitled to a doctoral scholarship.

§ 18

1. The doctoral student is required to perform tasks defined by the head of the University unit in which they conduct research as part of the individual research plan. The scope of this involvement should be agreed with the supervisor or supervisors.
2. Any absence of the doctoral student from classes specified in the curriculum or from the University unit where research is conducted must be immediately reported to the Director of the Doctoral School, as well as to the supervisor or supervisors and the head of the unit where the doctoral student conducts research.
3. Inability to participate in classes or implement the individual research plan due to health reasons should be appropriately documented, for example by submitting a relevant medical certificate within 7 days from the day of the absence or immediately if meeting this deadline is not possible.
4. In the case of prolonged absence, i.e., an absence longer than 1 month, the doctoral student is required to notify the Director of the Doctoral School of the inability to participate in classes within 14 calendar days, counting from the first day of the absence.

Doctoral Scholarship

§ 19

1. A doctoral student without a doctoral degree receives a doctoral scholarship, the total duration of which in doctoral schools may not exceed 4 years.
2. A doctoral student does not receive a doctoral scholarship if they receive remuneration of at least 150% of the amount of the doctoral scholarship to which they are entitled, due to employment in connection with the implementation by the University of a project, program, or competition announced by NAWA, NCBiR, NCN, or an international competition for the implementation of a research project; or a research or teaching project financed from European Union budget funds or by another grant-awarding entity, for the duration of such employment.
3. The period referred to in section 1 does not include:
 1. the suspension period referred to in §17 section 3;
 2. the period of education in the Doctoral School for persons who have lost the possibility of completing education, as referred to in § 6.
3. The doctoral scholarship is paid by the University.
4. The monthly amount of the doctoral scholarship is determined by the Rector. This provision does not apply to the amount of research scholarships covering doctoral scholarships awarded under agreements with funding entities.
5. The amount of the doctoral scholarship may not be lower than the amounts indicated in the Act and may depend on the achievements of the doctoral student.

§ 20

1. During the period of suspension of education, the rules for determining the amount of the doctoral scholarship apply accordingly to the rules for determining maternity allowance, except that the basis for calculating the allowance is considered to be the amount of the monthly doctoral scholarship referred to in the Act, due on the day the suspension request is submitted.
2. A doctoral student holding a disability certificate, a certificate of the degree of disability, or another certificate referred to in the regulations on vocational and social rehabilitation and employment of persons with disabilities receives a doctoral scholarship increased by 30% of the amount indicated in the Act.
3. A doctoral student who submits the doctoral dissertation earlier than the completion date of education provided for in the curriculum receives a doctoral scholarship until the date on which the education completion deadline expires, but no longer than for 6 months, subject to the total maximum period referred to in §19 section 1.

Education Program

§ 21

1. The Doctoral School provides education based on curricula including universal design, established by the Senate.
2. The curriculum determines in particular:
 1. the learning outcomes referred to in § 5 section 2, corresponding to the scientific disciplines within which doctoral education is conducted;
 2. courses, workshops, seminars and other activities that enable the achievement of the assumed learning outcomes, including courses expanding knowledge and skills:

- in the field of a specific scientific discipline, enabling the implementation of research and the use and creative development of methods, techniques and research tools necessary to solve problems or perform research-related tasks specific to that discipline;
 - in other scientific disciplines, enabling the creative identification and innovative solving of complex problems or undertaking research-related tasks, including within interdisciplinary teams.
3. The curriculum is implemented in Polish or English.
 4. The curriculum provides for practical training in the form of teaching or assisting in teaching, not exceeding 60 teaching hours per year.
 5. The curriculum for doctoral students is established by the Senate after consultation with the councils of the disciplines under which education is conducted and the doctoral student government.

§ 22

1. The curriculum allows for a high degree of individualization of education for the doctoral student. The curriculum includes:
 1. compulsory general courses, intended mainly for doctoral students of a given cohort;
 2. elective specialist courses, participation in which depends on the subject matter, scope, and degree of advancement in the implementation of the individual research plan.
2. Specialist courses:
 1. should lead to an increase in key competences appropriate to the scientific discipline concerned; therefore, they should be conducted by researchers with recognized international scientific achievements;
 2. should be conducted using various teaching methods and organizational forms, in particular lectures, seminars, and research and methodological workshops, including those on the use of specialist research methods and tools.
3. The doctoral student selects specialist courses at least 1 month before the start of the relevant semester. The individual plan for the implementation of specialist courses must be agreed with the supervisor or supervisors.
4. It is permissible to achieve part of the learning outcomes using remote education methods and techniques.
5. The plan for the implementation of specialist courses is approved by the Director of the Doctoral School.

§ 23

1. In the education program, all forms of classes completed by the doctoral student referred to in § 22 section 1 are assigned ECTS credits.
2. The education program specifies the annual number of ECTS credits that the doctoral student should obtain within homogeneous groups of classes, in particular:
 1. compulsory classes;
 2. scientific conferences and seminars;
 3. university seminars – interdisciplinary and specialist;

4. specialist workshops, including those conducted by foreign experts and specialists with practical experience.
3. The education program also specifies the number of ECTS credits that may be obtained through education using distance learning methods and techniques.
4. The number of ECTS credits should take into account the level of the doctoral student's activity, including the form of presentation of their own achievements.
5. ECTS credits are not awarded for internships conducted in the form of teaching or assisting in teaching.
6. Classes completed during international exchange may be included in the classes referred to in section 2 point 1, and a scientific internship, including a foreign internship, may be included in the classes referred to in section 2 points 2–4.

§ 24

1. Compulsory classes are credited by academic teachers and other persons entrusted by the Director of the Doctoral School with conducting these classes, by entering grades in the education documentation on a 2–5 scale.
2. To account for the active participation of the doctoral student in specialist classes, including those completed abroad, the submission of an appropriate certificate or confirmation is required.
3. If the education program provides for internships in the form of teaching or assisting in teaching, the completion of such activities is confirmed by the relevant dean.
4. Professional internships of foreign doctoral students are conducted in English or Polish.

Organization of Education

§ 25

1. The academic year at the University lasts from 1 October to 30 September and is divided into 2 semesters.
2. The Rector determines and announces to University staff and students the schedule and organization of the academic year at least 3 months before it begins.
3. In the Doctoral School, classes in the 1st semester begin with the winter semester.

§ 26

1. In the Doctoral School, the credit period is the semester.
2. The Director of the Doctoral School:
 1. based on the education program, prepares schedules for the implementation of compulsory classes for the given year of doctoral study, referred to in § 22 section 1 point 1, at least 1 week before the start of the relevant semester;
 2. approves individual plans for the implementation of specialist classes referred to in § 22 section 3 and makes adjustments during the semester,

upon the doctoral student's request endorsed by the supervisor or supervisors.

3. The classes referred to in section 2 must be completed and passed by the doctoral student within the deadline applicable to the end of the given semester, as specified in the organization of the academic year.
4. The doctoral student is obliged to submit to the Office of the Doctoral School a report on the implementation of the education program no later than 14 days before the end of the relevant semester, together with copies of the necessary attachments referred to in § 24 sections 2 and 3.
5. The Director of the Doctoral School performs the semester settlement of classes completed and passed by doctoral students.
6. Lack of semester settlement of classes may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

Supervisor and Assistant Supervisor

§ 27

1. The University body designated in the Statute, competent to award the doctoral degree in a given scientific discipline, appoints a supervisor or supervisors for the doctoral student within 3 months from the date of commencing education at the Doctoral School.
2. The appointment of a supervisor or – in accordance with § 28 – supervisors is made upon the doctoral student's request submitted to the Doctoral School office. The request should be submitted within 1 month from the date of commencing education at the Doctoral School. In the request, the doctoral student indicates the academic teacher who, in their opinion, may act as the supervisor.
3. The request also includes a justification in which the doctoral student specifies, in particular:
 1. the proposed topic and purpose of the doctoral thesis, with the topic clearly referring to the subject on the basis of which the doctoral student was admitted to the Doctoral School;
 2. an outline of the research issues and the scope of research necessary to be conducted;
 3. the expected results and their potential use to advance the discipline.
4. Submission of the request by the doctoral student also requires the opinion of the head of the relevant unit of the University, regarding the feasibility of the research referred to in section 3 point 2.
5. The proposed supervisor or supervisors submit to the Director of the Doctoral School a declaration of willingness to provide scientific supervision to the doctoral student, as well as a declaration of compliance with the requirements for holding this position, as specified in §§ 29 and 30.
6. Following formal verification, the Director of the Doctoral School forwards the request for appointment of the supervisor or supervisors without delay to the chair of the body referred to in section 1.
7. Failure by the doctoral student to submit the request within the deadline referred to in section 2 may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 28

1. The doctoral student may prepare an interdisciplinary doctoral thesis, whose research issues and scope of research extend beyond the field of one scientific discipline.
2. In the case of an interdisciplinary thesis, 2 supervisors are appointed, each competent in one of the disciplines to which the research issue pertains. The provisions of § 27 sections 1–5 apply accordingly.

§ 29

1. A supervisor may be a person holding a post-doctoral degree (doktor habilitowany) or the title of professor, who has achievements in the scientific area to which the doctoral thesis relates.
2. A person not meeting the requirements specified in section 1 may also act as a supervisor if they are an employee of a foreign university or research institution, provided that the body referred to in § 27 section 1 recognizes that the person has significant achievements in the scientific area to which the doctoral thesis relates.
3. Without a justified reason, an academic teacher may not refuse to act as a supervisor.
4. The scientific supervision provided by the supervisor is assessed concurrently with the mid-term assessment of doctoral students. Detailed rules for conducting the assessment of scientific supervision are defined in the Regulations for assessing the scientific supervision of doctoral students of the Doctoral School, constituting Appendix No. 2 to the Regulations.

§ 30

A person may not act as a supervisor if, in the last 5 years:

1. they supervised 4 doctoral students who were removed from the list of doctoral students due to a negative mid-term assessment,
or
2. they supervised the preparation of a doctoral thesis by at least 2 candidates for the doctoral degree whose theses did not receive positive reviews, preventing admission to the defense.

§ 31

1. The scope of implementation of the individual research plan referred to in § 33 may provide grounds for appointing an assistant supervisor.
2. The appointment of an assistant supervisor is made upon the doctoral student's request submitted to the Doctoral School office, within 30 days after obtaining a positive evaluation from the assessment committee referred to in § 33 section 9.
3. The request includes an indication of the academic teacher who, in the doctoral student's opinion, may act as the assistant supervisor, as well as a positive opinion from the supervisor.
4. Following formal verification, the Director of the Doctoral School forwards the request for appointment of the assistant supervisor without delay to the chair

of the body referred to in § 27 section 1. The assistant supervisor should be appointed within 1 month from the date of submission of the request.

§ 32

1. An assistant supervisor may be a person holding at least a doctoral degree, and the requirements specified in § 29 section 3 apply to their appointment.
2. An assistant supervisor shall not be appointed in the case of an interdisciplinary doctoral thesis as referred to in § 28 section 1.

Individual Research Plan

§ 33

1. The doctoral student, in consultation with the supervisor or supervisors, prepares an individual research plan, which includes in particular:
 1. the schedule and scope of the research to be conducted;
 2. the schedule for preparation and the deadline for submission of the doctoral thesis.
2. The research topic carried out as part of the individual research plan shall clearly relate to the research topic based on which the doctoral student was admitted to the Doctoral School.
3. The doctoral student submits the individual research plan in electronic and paper form to the Doctoral School office at least 1 month before the end of the first year of education.
4. The individual research plan shall be presented by the doctoral student to the assessment committee within 12 months from the date of commencement of education.
5. The University body referred to in § 27 section 1 appoints the assessment committee upon request of the Director of the Doctoral School submitted to the chair of this body. The committee shall be appointed at least 3 months before the deadline referred to in section 3.
6. The assessment committee deliberates in a 5-member composition, including at least 2 persons who are members of the body referred to in section 5.
7. In the case of an interdisciplinary thesis as referred to in § 28 section 1, the assessment committee deliberates in a 7-member composition, including:
 1. the Director of the Doctoral School as chair;
 2. 3 persons selected by the competent body, including at least 2 persons who are members of the body referred to in section 5.
8. The supervisor or supervisors participate in the meeting of the assessment committee as observers.
9. The requirements specified in § 29 apply to the selection of members of the assessment committee.
10. The assessment committee makes decisions regarding the evaluation of the individual research plan by a simple majority of votes. The evaluation may be positive, in which case the plan is implemented without changes, or the committee may indicate comments on the individual research plan that must be taken into account by the doctoral student when revising the plan.
11. A protocol of the assessment meeting is prepared and signed by all members of the committee.

12. In the case of comments from committee members, the revised plan together with explanations and the opinion of the supervisor or supervisors shall be submitted by the doctoral student to the committee within 1 month of receiving the assessment protocol. Failure to revise the plan or submit explanations within the above deadline constitutes grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.
13. The assessment committee informs the Director of the Doctoral School of the results of the evaluation of the individual research plan, and the Director communicates this information to the relevant discipline coordinators and to the doctoral students.

§ 34

1. The individual research plan may be modified after the mid-term evaluation referred to in § 35. The modification is carried out by the doctoral student in consultation with the supervisor or supervisors, or with the supervisor and the assistant supervisor. The modification may concern changes in the scope and timeline of the research conducted, as well as changes in the schedule for the completion of the doctoral thesis.
2. In justified cases, changes to the scope and timeline of the research included in the individual research plan may be made before the mid-term evaluation is conducted.
3. Each modification of the individual research plan requires a positive opinion from the chair of the Committee referred to in § 33. The chair of the Committee may seek the Committee's opinion. The Director shall immediately inform the doctoral student of the approval of the modification of the individual research plan.

Mid-term Evaluation and Progress Assessment § 35

1. The implementation of the individual research plan is subject to mid-term evaluation, conducted by the assessment committee appointed by the body designated in the Statute, referred to in § 27 section 1.
2. The mid-term evaluation is conducted from the beginning of September of the 4th semester of education and must be completed within 3 subsequent months.
3. For the purpose of the mid-term evaluation, the doctoral student prepares a report on the implementation of the individual research plan, which is submitted in electronic and paper form to the Doctoral School office by 10 September of the 4th semester of education in which the evaluation is conducted. The report shall be accompanied by the opinion of the supervisor or supervisors.
4. The report may include justification for necessary modifications to the individual research plan, including changes to the schedule for completion of the doctoral thesis.
5. Following formal verification of the report, the Director of the Doctoral School submits a request for the mid-term evaluation to the chair of the body referred to in section 1, within 14 days of receiving the report.

6. Failure by the doctoral student to submit the report within the deadline referred to in section 3 may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 36

1. The committee referred to in § 35 section 1 consists of 3 persons, including at least 1 employed outside the University, holding a postdoctoral degree (doktor habilitowany) or the title of professor in the discipline in which the doctoral dissertation is being prepared, or an employee of a foreign university or research institution with significant achievements in the scientific area to which the doctoral dissertation relates.
2. The supervisor or assistant supervisor may not be a member of the committee.
3. The detailed rules for conducting the mid-term evaluation are specified in the Regulations of the Mid-Term Evaluation of Doctoral Students, constituting Annex No. 3 to the Regulations.
4. The mid-term evaluation ends with a positive or negative result, and the result together with the justification is public.
5. The committee prepares minutes of the meeting, which are signed by all its members.
6. Information on the mid-term evaluation is entered into the integrated POL-on system.
7. A negative evaluation constitutes grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 37

1. After conducting the mid-term evaluation referred to in § 36 section 3, progress in the implementation of the individual research plan is evaluated every semester, i.e. progress:
 1. in the implementation of research of the individual research plan;
 2. in the preparation of the doctoral dissertation, subject to section 3.
2. The progress evaluation is carried out based on a report prepared by the doctoral student. The guidelines and rules for conducting the evaluation are set by the Doctoral School Council.
3. The detailed rules for the progress evaluation are specified in the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and Preparation of the Doctoral Dissertation, constituting Annex No. 4 to the Regulations.
4. The evaluation of the implementation of the individual research plan and progress in the preparation of the doctoral dissertation is carried out within 1 year after the mid-term evaluation, i.e. in September (6th semester), and subsequently in February (7th semester) and June (8th semester).
5. The reports referred to in section 2, approved by the supervisor or supervisors, are submitted by the doctoral student in electronic and paper form to the Doctoral School office at least 14 days before the end of the relevant semester.
6. The progress evaluation is carried out by the Committee for the Evaluation of the Individual Research Plan.

7. The progress evaluation may be positive or negative. A negative evaluation may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

Change of supervisor § 38

1. In justified cases, particularly those preventing the implementation of the individual research plan, including preparation of the doctoral dissertation, the doctoral student may submit a request to the Director of the Doctoral School to change the supervisor or assistant supervisor.
2. In the request, the doctoral student shall indicate a candidate for the new supervisor or assistant supervisor for the further stage of education at the Doctoral School, taking into account § 29.
3. In cases preventing the continuation of scientific supervision, the supervisor or assistant supervisor may resign from their function. In the request submitted to the Director of the Doctoral School, the supervisor or assistant supervisor shall indicate justified reasons for resignation as well as an academic teacher with sufficient achievements to take over scientific supervision.
4. After reviewing the case, the Director of the Doctoral School promptly submits the request to change the supervisor or assistant supervisor to the chairperson of the body referred to in § 27 section 1.
5. The supervisor or assistant supervisor should be appointed within 1 month from the date of submitting the request referred to in sections 1 or 3.

Suspension, extension, and resignation from education § 39

1. Suspension of education, referred to in § 17 section 3, constitutes grounds for changing the plan of classes carried out by the doctoral student and changing the deadline for submitting required reports and applications, as well as modifying the schedule for implementing the individual research plan, including the schedules of research and preparation of the doctoral dissertation.
2. The basis for changing the plan of classes carried out by the doctoral student may also be:
 1. specific needs of the doctoral student:
 - resulting from the doctoral student's or a family member's health condition and duly documented fortuitous circumstances, including long-term illness of the doctoral student or a family member, documented with the appropriate medical certificate,
 - resulting from fortuitous circumstances;
 2. completing a research internship, including abroad, lasting longer than 3 months.
3. In justified cases, including those resulting from health conditions or fortuitous circumstances, the doctoral student may also request a change in the scope of professional practice, carried out in the form of teaching or participating in teaching.
4. At the request of the doctoral student, the changes referred to in sections 1–3 are made by the Director of the Doctoral School after obtaining the opinion of:

1. for classes referred to in sections 1 and 2 – the supervisor or supervisors;
2. for classes referred to in section 3 – the head of the unit in which the doctoral student conducts research.
An opinion is not required regarding changes related to the schedule of compulsory classes.
5. The doctoral student is obliged to submit to the Doctoral School office the request referred to in section 4, together with justification, no later than 14 days before the end of the semester.
6. Changes to the schedule of implementation of the individual research plan, including the schedule for preparation of the doctoral dissertation, are made in the manner referred to in § 34.

§ 40

1. The changes referred to in § 39 sections 1 and 2 constitute grounds for extending education at the Doctoral School and changing the deadline for submitting the doctoral dissertation, subject to section 4.
2. The justified necessity to repeat research or conduct additional research, as well as the change of supervisor referred to in § 38, may also constitute grounds for extending education at the Doctoral School.
3. At the request of the doctoral student, the extension of education is granted by the Director of the Doctoral School after consulting the opinion of the supervisor or supervisors. In this regard, the Director of the Doctoral School may request an opinion from the chairperson of the body referred to in § 27 section 1.
4. The deadline for submitting the doctoral dissertation may be extended by a maximum of 2 years.

§ 41

1. The doctoral student may resign from education at the Doctoral School.
2. Resignation from education is confirmed on the basis of a written statement of resignation submitted by the doctoral student, including a declaration of no claims to the results of the conducted research.
3. The doctoral student shall attach to the statement an opinion from the head of the unit in which the research was conducted, confirming correct settlement of obligations towards the unit.
4. Resignation from education constitutes grounds for removal of the doctoral student from the list of doctoral students.

Doctoral students with special needs, including doctoral students with disabilities, and medical examinations

§ 42

1. The University provides persons with special needs resulting from their health condition, including persons with disabilities, with conditions for full participation in University life and the academic community, including in education. These conditions include, in particular, the rights and forms of support referred to in section 2. The units of the University are responsible for

implementing the support. The coordination of support activities is carried out by the Office for Persons with Disabilities (BON).

2. A doctoral student with special needs resulting from their health condition, including a disability, if justified by their specific needs, has the right to the entitlements and services referred to in the support regulations, on the conditions specified therein, including:
 1. provision of accessibility within the teaching process through, among others:
 - provision of accessible forms, locations, conditions and appropriate organization, including individual classes or classes in an alternative form,
 - provision of accessibility of teaching materials,
 - permission to take personal notes from classes in an alternative form (including through recording or taking photos) and to use other devices,
 - in the case of enrollment for classes or groups based on first come, first served – priority enrollment for such classes or groups,
 - education in the form of an individual study program,
 2. provision of accessibility within the learning outcomes assessment process, including ensuring equivalence of form and objectivity of assessment through, among others:
 - provision of accessible forms, locations, conditions and appropriate organization,
 - assessment of learning outcomes at times that take into account the doctoral student's special needs,
 - course completion in an individual mode,
 - assessment of learning outcomes in sign languages,
 3. provision of accessibility within scientific activity:
 - provision of accessible forms of conducting scientific activity,
 - provision of accessibility of research materials,
 - provision of accessibility of research equipment and research software,
 - provision of support for participation in scientific conferences, etc.,
 4. elimination or limitation of harmful, onerous and hazardous factors for health occurring during education at the Doctoral School, including:
 - the right to request a referral for medical examinations,
 - the right to request the limitation or elimination of harmful, onerous or hazardous factors for health,
3. The Director of the Doctoral School, the head of the unit where the doctoral student conducts research, or another head of a University unit shall provide or support the implementation of the granted entitlements and services.
4. Requests from a doctoral student with special needs, including a disability, submitted to the Director of the Doctoral School, another head of a University unit, or the Rector, referring to their health condition – are considered in cooperation with BON.
5. Medical documentation, decisions, etc. are included in the BON documentation and are not kept in the doctoral student's personal file, except in situations indicated in the applicable regulations.

§ 43

1. The list of harmful, onerous and hazardous factors for health (hereinafter “harmful factors”) that occur during education in individual disciplines is

prepared and updated by the Occupational Health and Safety and Fire Protection Office and published on the BON website.

2. In disciplines where during education, including research, doctoral students are exposed to harmful factors, the condition for admitting the doctoral student to classes or research is submission of a medical certificate confirming no health contraindications to undertake education in the given discipline – subject to section 4.
3. Persons applying for admission via transfer from another doctoral school in the discipline referred to in section 2, and doctoral students before the date of the next medical examination indicated in the medical certificate – receive a referral for medical examinations.
4. The University strives to enable the widest possible group of persons to undertake and continue education at the Doctoral School, in particular by eliminating or reducing harmful factors in individual cases.
5. A person referred to in section 3 has the right to apply to the Director of the Doctoral School for the right to receive a referral for medical examination.
6. A person who presents a medical certificate confirming the existence of health contraindications to undertake education in the given discipline may exercise the right to request elimination or reduction of harmful factors. In the case of reduction of harmful factors, the person receives a referral for medical examination concerning only those limited harmful factors.
7. If elimination or reduction of harmful factors in a given discipline is not possible or if despite their reduction, the person presents a medical certificate confirming health contraindications to education in the Doctoral School in this discipline, the University shall propose a change of research profile, subject to other formal requirements.

Completion of education at the Doctoral School

§ 44

1. The doctoral student completes education by submitting the doctoral dissertation to the Doctoral School's secretariat.
2. The doctoral dissertation must meet the requirements specified in Article 187 of the Act.
3. The doctoral student prepares the doctoral dissertation in Polish or English.
4. The doctoral student shall attach to a dissertation prepared in Polish a summary in English, and to a dissertation prepared in English a summary in Polish.

§ 45

1. The individual research plan specifies the deadline for submitting the doctoral dissertation.
2. The doctoral student shall attach to the submitted dissertation a supervisor's or supervisors' opinion confirming that the submitted dissertation meets the formal and substantive requirements and complies with the individual research plan.
3. If the dissertation is a written work, it shall be checked using the anti-plagiarism system (JSA). The check is carried out by the supervisor, who attaches the report to the opinion referred to in section 2.

4. After formal verification of the submitted dissertation, the Director of the Doctoral School issues a certificate of completion of the Doctoral School.

§ 46

1. If the doctoral student intends to initiate proceedings for the award of the doctoral degree before the body referred to in § 27 section 1, they shall attach to the submitted dissertation:
 1. a request to initiate proceedings for the award of the doctoral degree, addressed to the chairperson of the body referred to in § 27 section 1;
 2. documents confirming fulfilment of the requirements necessary to award the doctoral degree, as specified in the Act and the relevant resolution of the Senate.
2. After formal verification of the submitted dissertation, the Director of the Doctoral School shall immediately forward the request to initiate proceedings for the award of the doctoral degree to the chairperson of the body referred to in § 27 section 1, attaching the dissertation and the positive opinion of the supervisor or supervisors.

§ 47

1. In the case of a negative opinion issued by the supervisor or supervisors, as referred to in § 42a section 2, the doctoral student shall supplement or revise the dissertation in accordance with the recommendations set out in the opinion, within 3 months of receiving the negative opinion.
2. After supplementing or revising the dissertation, the supervisor or supervisors issue a new opinion.
3. In the case of another negative opinion, the doctoral student has the right to appeal to the evaluation committee referred to in § 35 section 5. The committee's opinion is final.

§ 48

The procedure for awarding the doctoral degree is regulated by separate provisions. At the University, the procedure is conducted by the body referred to in § 27 section 1.

Removal from the list

§ 49

1. The doctoral student shall be removed from the list of doctoral students in the case of:
 1. a negative result of the mid-term evaluation referred to in § 36 section 5;
 2. failure to submit the doctoral dissertation within the deadline specified in the individual research plan;
 3. resignation from education;
 4. failure to commence education;
 5. violation of the prohibition on being a doctoral student at more than one doctoral school, or violation of the employment prohibition under the conditions specified in § 17 section 4;
 6. sanction of disciplinary expulsion from the Doctoral School.

2. In proceedings concerning the removal of a doctoral student from the list of doctoral students in the cases referred to in section 1 point 5), the doctoral student is summoned to submit, within a period of no less than 30 days, a resignation from education at another doctoral school or resignation from employment as an academic teacher or researcher.
3. The doctoral student may be removed from the list of doctoral students in the case of failure to fulfil the obligations related to the implementation of the education programme, based on the lack of semester completion of courses referred to in § 26 section 6.
4. The doctoral student may also be removed from the list of doctoral students in the case of:
 1. unsatisfactory progress in preparing the doctoral dissertation;
 2. failure to fulfil the obligations related to the implementation of the individual research plan;
– based on the progress evaluation referred to in § 37 section 5.
5. Removal from the list of doctoral students is carried out by administrative decision. The student has the right to request reconsideration of the case.

Education documentation

§ 50

1. The documentation of the doctoral student's education process at the Doctoral School is maintained using the University's IT system and recorded in the doctoral student's index.
2. The documentation referred to in section 1 is collected in the IT system and stored in the doctoral student's personal file, maintained by the Doctoral School's secretariat, from the moment the candidate applies for admission to the Doctoral School.
3. Data are entered into the IT system on an ongoing basis. The Director of the Doctoral School is responsible for the completeness, correctness and timeliness of the data entered into the IT system.
4. The chairperson of the body referred to in § 27 section 1 is responsible for timely submission to the Director of the Doctoral School of documentation related to the procedures conducted by that body.
5. The Doctoral School's secretariat is obliged to assign the doctoral student an album number from the central pool, enter the appropriate Doctoral School education programme code, order the printing of the Electronic Doctoral Student ID card and migrate data from USOS to the POL-on system.

§ 51

1. After a candidate is admitted to the Doctoral School, the Doctoral School secretariat enters the data into the university's IT system and subsequently, without delay, into the POL-on system. These data include, among others:
 1. first name(s) and surname;
 2. PESEL number, or in its absence – the number of an identity document and the name of the country that issued it;
 3. electronic researcher identifier compliant with international standards, which the doctoral student admitted to the Doctoral School must apply for within 14 days from the start of education;

4. citizenship, and in the case of foreigners:
 - name of the country of birth,
 - information on admission to the Doctoral School and participation in education therein,
 - information on possession of a Polish Charter (Karta Polaka);
 5. year of birth;
 6. sex;
 7. information on the amount of the doctoral scholarship;
 8. date of commencement of education at the Doctoral School, date and duration of suspension, date of completion of education at the Doctoral School or date of removal from the list of doctoral students.
2. In the case of consent to extend the deadline for submitting the doctoral dissertation, this information is entered into the university's IT system and the POL-on system.
 3. The detailed list of documents collected in the doctoral student's file referred to in § 47 section 2 is specified in Appendix No. 1 to the Regulations.

Appeals and final provisions

§ 52

1. The doctoral student has the right to appeal to the Rector against all decisions issued by the Director of the Doctoral School. The Rector may uphold the Director's decision or repeal it and return the case to the Director for reconsideration.
2. In matters concerning the course of education resolved in the form of administrative decisions and not regulated by the Regulations, the provisions of the Code of Administrative Procedure shall apply accordingly, unless the Act provides otherwise. An application for reconsideration of the case may be submitted against administrative decisions issued by the Rector.

§ 53

In cases justified by extraordinary circumstances that threaten the life or health of doctoral students, the minister responsible for higher education and science may, by regulation, temporarily limit or temporarily suspend the education of doctoral students.

Appendix No. 1

to the Regulations of the Doctoral School

Method of documenting the course of education in the doctoral student's personal file

I. Documentation of the doctoral student related to the course of education

1. The doctoral student's personal file, maintained and stored at the Doctoral School secretariat, contains:
 1. documents required from the candidate of the Doctoral School;
 2. qualifying procedure documents constituting the basis for entry onto the list of doctoral students;
 3. confirmation of taking the oath;
 4. documents confirming the course of education at the Doctoral School, including, among others:
 - a. credit protocols, internship reports,
 - b. documents related to scholarships,
 - c. documents related to completion of education at the Doctoral School,
 5. additional documentation resulting from the agreement or arrangement referred to in § 12 section 1;
 6. resolutions adopted by the University body competent to conduct the doctoral proceedings, related to:
 - a. appointment of the supervisor or supervisors, as well as the auxiliary supervisor;
 - b. change of supervisor or supervisors, as well as auxiliary supervisor;
 - c. appointment of reviewers;
 - d. acceptance of the doctoral dissertation and admission to its public defence;
 - e. acceptance of the public defence of the doctoral dissertation;
 - f. granting or not granting the doctoral degree;
 7. reviews of the doctoral dissertation;
 8. awards/distinctions of the doctoral dissertation;
 9. if the doctoral dissertation is a written work – a copy of the doctoral dissertation together with a summary: in English for a dissertation prepared in Polish, and in Polish for a dissertation prepared in English;
 10. if the doctoral dissertation is not a written work, it should be accompanied by a description in Polish and English;
 11. a diploma transcript for the file, together with a photocopy of the additional diploma transcript translated into another language, and confirmation of receipt of the diploma, transcripts and any duplicates;
 12. if the doctoral dissertation is a written work, the report from the Uniform Anti-Plagiarism System;
 13. notification of granting or not granting the doctoral degree.
2. After completion of the full education cycle of the doctoral student, the file is stored for a period of 1 year and is subsequently transferred to the University archive.

**Regulations for the Evaluation of Scientific Supervision
of Doctoral Students of the Doctoral School**

§ 1

1. Scientific supervision is evaluated concurrently with the mid-term evaluation of doctoral students, which is carried out in accordance with Article 202(2) of the Act of 20 July 2018 – Law on Higher Education and Science.
2. The evaluation of scientific supervision is conducted on the basis of the Scientific Supervision Evaluation Report, the template of which is specified in Annex No. 1 to these Regulations, as well as on the basis of a discussion held by the Committee referred to in § 2(1) with the supervisor(s) and the doctoral student.
3. The Evaluation Report shall be submitted to the Doctoral School Office no later than by the end of the first week of October of the year in which the mid-term evaluation of the doctoral student takes place.
4. The discussion with the supervisor may be conducted remotely.
5. The evaluation of scientific supervision ends with either a positive or negative result. The result of the evaluation, together with its justification, is public.

§ 2

1. The evaluation of scientific supervision is carried out by a three-member Committee for the Evaluation of Scientific Supervision appointed by the relevant discipline council, composed of employees of the Hugo Kołłątaj University of Agriculture in Kraków. The Committee shall include two persons who participate in the work of the Committee for the mid-term evaluation of the doctoral student. The discipline council shall appoint the Committee within one month of receiving the request from the Director of the Doctoral School.
2. The Committee proposes the date of the discussion with the supervisor.
3. The Committee prepares the Scientific Supervision Evaluation Protocol, the template of which is specified in Annex No. 2 to these Regulations.
4. In the case of a negative evaluation of scientific supervision, combined with a positive mid-term evaluation of the doctoral student's Individual Research Plan (IRP), the relevant discipline council shall change the supervisor; the request for such a change is submitted by the Director of the Doctoral School.
5. The members of the Committee submit the final evaluation to the Director of the Doctoral School within 3 days of the last meeting. The Director of the Doctoral School presents the final evaluation to the evaluated supervisor, the coordinator, and the discipline council. The supervisor signs the Scientific Supervision Evaluation Protocol.

§ 3

1. In justified cases, the Director of the Doctoral School may change the deadlines specified in these Regulations by issuing an announcement.
2. Matters relating to the work of the Committee that are not covered by these Regulations shall be decided by the Director of the Doctoral School.

Annex No. 1

to the Regulations for the Evaluation of Scientific Supervision

SCIENTIFIC SUPERVISION EVALUATION REPORT

(separate file)

Annex No. 2 to the Regulations for the Evaluation of Scientific Supervision

SCIENTIFIC SUPERVISION EVALUATION PROTOCOL

(separate file)

Regulations of the Mid-term Evaluation of Doctoral Students

§ 1

1. In accordance with Article 202(2) of the Act of 20 July 2018 – Law on Higher Education and Science, the implementation of the Individual Research Plan (hereinafter: IRP) is subject to a mid-term evaluation halfway through the period of education specified in the curriculum.
2. The mid-term evaluation is carried out from the beginning of September of the 4th semester of education and must be completed within the following 3 months.
3. The mid-term evaluation of a doctoral student is based on:
 1. the report on the implementation of the IRP submitted by the student, the template of which is specified in Annex No. 1 to these Regulations (stage 1);
 2. the interview with the doctoral student (stage 2).
4. The report on the implementation of the IRP, written in Polish or English and signed by the doctoral student and the supervisor, shall be submitted to the Doctoral School Office no later than by the end of the first week of October of the year in which the mid-term evaluation takes place.
5. The interview with the doctoral student is conducted in Polish or English and may be held remotely.
6. The report on the implementation of the IRP must include a copy of the IRP and documents confirming the doctoral student's activities resulting from the IRP, including the first pages of papers published during the doctoral programme, decisions of institutions awarding grants, confirmation from the principal investigator of a research project, patent application numbers, and confirmation of participation in a conference including the type of presentation and the title of the presented work.
7. The mid-term evaluation ends with a positive or negative result. The result, together with its justification, is public.

§ 2

1. The mid-term evaluation is conducted by the Mid-term Evaluation Committee appointed by the relevant discipline council upon the request of the Director of the Doctoral School. The discipline council appoints the Committee within one month of receiving the request.
2. The Mid-term Evaluation Committee is composed of 3 persons holding the degree of doktor habilitowany (DSc) or the title of professor in the discipline in which the doctoral dissertation is being prepared, including at least one person employed outside the University or an employee of a foreign university or research institution with significant achievements in the field relevant to the doctoral dissertation.
3. Members of the Committee must be active researchers, meaning that within the last six years they have published at least four works (journal articles, conference papers, or books within a book series) indexed in Scopus, with at least two of these works published in journals assigned to the discipline

according to the ministerial list and having a score of at least 30 points according to the MNiSW list (if published before 2018) or at least 100 points according to the MEiN list (if published after 2018). For the discipline of economics and finance, these thresholds are 25 and 70 points, respectively.

4. One member of the Committee may be a researcher from abroad. Participation of such a member takes place exclusively remotely.
5. The supervisor and assistant supervisor cannot be members of the Committee.
6. The discipline council appoints the chair, the secretary, and a member of the Committee. In justified cases, the Director of the Doctoral School may request that the discipline council dismiss a member of the Committee and appoint a replacement.
7. A Committee member employed outside the institution running the Doctoral School is entitled to remuneration equal to 20% of a professor's salary. The remuneration is covered from the research subsidy allocated to the relevant discipline.
8. The chair of the Committee convenes meetings by setting the dates and venues. All necessary information is provided to the Doctoral School Office, which informs the doctoral student and the supervisor about the dates and locations of the Committee meetings.
9. The mid-term evaluation report is reviewed by the Committee within 30 days of delivering the report to its members.
10. The Committee proposes the date of the interview with the doctoral student.
11. Attendance of the doctoral student at the Committee meeting during which the interview is held is mandatory. Acceptable reasons for absence include a medical certificate presented on the day of the evaluation (or, in exceptional cases, within no more than 7 days after the scheduled meeting) or an important unforeseen event. In such cases, a new evaluation date is set. Unexcused absence results in a negative evaluation.
12. During the interview, the doctoral student presents the status of IRP implementation in a 20-minute presentation. Each member of the Committee asks one question related to the presentation or the implementation of the IRP. The questions are recorded, and the template of the protocol is provided in Annex No. 2 to these Regulations.
13. After completing both stages of the evaluation, the Committee agrees on the final result of the mid-term evaluation and prepares a protocol (Annex No. 2). The Committee provides the result as positive or negative. The evaluation is positive if the majority of the Committee members issue a positive opinion.
14. A positive mid-term evaluation must be based on the fulfilment of the following conditions:
 1. the doctoral student has completed the tasks specified in the IRP for completion by the end of the 4th semester;
 2. the doctoral student demonstrates a delay in IRP implementation not exceeding 30%, and it is still possible to complete the IRP within the timeframe specified in the Regulations of the Doctoral School, with the doctoral student's scientific and publication activity clearly indicating their engagement in the research tasks.
15. A negative mid-term evaluation is issued when the Committee finds no progress in the implementation of the IRP.
16. Both positive and negative evaluations must be justified.

17. The Committee deliberates on the result in a closed session.
18. A negative mid-term evaluation results in removal from the list of doctoral students.
19. The Committee members present the final evaluation to the Director of the Doctoral School within 3 days of the last meeting. The Director provides the final evaluation to the doctoral student, the supervisor, the coordinator, and the discipline council. The doctoral student and the supervisor sign the final evaluation protocol on the date of receipt.
20. The doctoral student may appeal a negative evaluation to the Director of the Doctoral School within 7 days of the publication of the results.
21. At the request of the Director of the Doctoral School, the Rector appoints a three-member Appeals Committee, including at least two persons not employed at the University and at least one person holding the degree of doktor habilitowany or the title of professor in the relevant discipline.
22. The Appeals Committee, after reviewing all documentation, conducts an interview with the doctoral student in order to make a final decision. This decision must be made no later than one month from the date the doctoral student submits the appeal. The decision of the Appeals Committee is final.

§ 3

1. In justified cases, the Director of the Doctoral School may change the deadlines specified in these Regulations by issuing an announcement.
2. Matters concerning the Committee's activities that are not covered by these Regulations shall be decided by the Director of the Doctoral School.

Annex No. 1 to the Regulations of the Mid-term Evaluation

MID-TERM EVALUATION REPORT

(separate file)

Annex No. 2 to the Regulations of the Mid-term Evaluation

MID-TERM EVALUATION PROTOCOL OF THE DOCTORAL STUDENT

(separate file)

Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan of Doctoral Students and the Status of Preparation of the Doctoral Dissertation

1. In accordance with § 37 of the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków, after the completion of the mid-term evaluation, the implementation of the Individual Research Plan (hereinafter: IRP) and the status of preparation of the doctoral dissertation are subject to evaluation.
2. The evaluation is carried out three times: in September (6th semester), February (7th semester), and June (8th semester).
3. The evaluation of the doctoral student's progress is based on a submitted report presenting the progress in the implementation of the Individual Research Plan and the status of preparation of the doctoral dissertation, hereinafter referred to as the Report. The template of the Report is specified in Annex No. 1 to these Regulations. The Report should be reviewed by the supervisor or supervisors of the doctoral dissertation.
4. The Report, prepared in Polish or English and signed by the doctoral student and the supervisor or supervisors, shall be submitted to the Doctoral School Office no later than by the end of the month preceding the evaluation date indicated in point 2.
5. The evaluation of progress in the implementation of the Individual Research Plan and the status of preparation of the doctoral dissertation is carried out by the Committee for the Evaluation of the Individual Research Plan.
6. The Report must include documentation from the mid-term evaluation (the doctoral student's report and the evaluation protocol), a copy of the IRP, the report from the previous evaluation, as well as documents confirming the doctoral student's activities resulting from the IRP, including: the first pages of works published since the previous evaluation, decisions from institutions granting research funding, confirmation from the principal investigator of a research project, proof of submission of a grant application, patent application number, confirmation of participation in a conference containing the type of presentation and the title of the presented work, and documentation of the completion of a national or international research internship.
7. The Report is evaluated by the Committee. The Chair of the Committee convenes its meetings, setting the dates and venues.
8. A positive evaluation is based on the fulfilment of the following conditions:
 1. the doctoral student has completed the tasks specified in the IRP for completion by the end of the relevant semester;
 2. the doctoral student demonstrates a delay in completing the IRP, but their scientific and publication activity clearly indicates their engagement in the research tasks.
9. The Committee determines the final evaluation result and prepares a protocol, the template of which is included in Annex No. 2 to these Regulations. The Committee issues the result as either positive or negative. The evaluation result is positive if the majority of Committee members issue a positive opinion.

10. A negative evaluation may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.
11. The Chair of the Committee submits the final evaluation to the Director of the Doctoral School within 7 days of the last meeting. The Director of the Doctoral School provides the final evaluation to the doctoral student and the supervisor or supervisors. The evaluation protocol is forwarded to the chair of the relevant discipline council.
12. The doctoral student has the right to appeal the result of the evaluation within 30 days from the date of receiving the evaluation.
13. At the request of the Director of the Doctoral School, the Rector appoints a three-member Appeals Committee. The Appeals Committee shall issue a decision no later than one month from the date the doctoral student submits the appeal. The decision of the Appeals Committee is final.

Annex No. 1 to the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and the Status of Preparation of the Doctoral Dissertation

REPORT ON THE EVALUATION OF PROGRESS IN THE IMPLEMENTATION OF THE INDIVIDUAL RESEARCH PLAN AND THE STATUS OF PREPARATION OF THE DOCTORAL DISSERTATION

(separate file)

Annex No. 2 to the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and the Status of Preparation of the Doctoral Dissertation

PROTOCOL OF THE EVALUATION OF PROGRESS IN THE IMPLEMENTATION OF THE INDIVIDUAL RESEARCH PLAN AND THE STATUS OF PREPARATION OF THE DOCTORAL DISSERTATION

(separate file)

**Curriculum of the Doctoral School
Hugo Kollataj University of Agriculture in Krakow**

§ 1

1. Doctoral training in the Doctoral School lasts eight semesters. It is conducted on the basis of a curriculum which enables doctoral candidates to achieve the learning outcomes appropriate for a full qualification at level 8 of the Polish Qualifications Framework, as referred to in the provisions on the Integrated Qualifications System, in the form of:
 1. advanced knowledge that significantly influences the development of the field related to the area of the conducted scientific research, including the latest scientific achievements;
 2. skills related to the methods and methodology of conducting scientific research, as well as the analysis and creative synthesis of scientific achievements, for the purpose of identifying and solving research problems and creating new elements of these achievements;
 3. social competences relating to research activity and the social role of a scholar, including undertaking challenges in the professional and public sphere, with consideration of their ethical dimension.
2. The learning outcomes correspond to the fields and disciplines of science, in accordance with the rights held by the University.
3. The curriculum provides for doctoral candidates to undertake professional practice in the form of conducting or co-conducting classes.
4. The curriculum is implemented in Polish or in English. The Director of the Doctoral School may decide that the entire curriculum for specific groups of doctoral candidates, in particular for foreigners, be delivered in English.

§ 2

1. The curriculum allows for a high degree of individualization of doctoral training. It specifies:
 1. compulsory general courses, aimed mainly at doctoral candidates of a given cohort;
 2. specialist elective courses, in which the doctoral candidate's participation depends on the topic, scope and level of advancement in the implementation of the Individual Research Plan.
2. In particular, the curriculum defines subjects, workshops and seminars as well as other classes and activities, the completion of which enables the achievement of the intended learning outcomes, including courses that broaden knowledge and skills:
 1. in a given scientific discipline, enabling the implementation of research and the application and creative development of research methods, techniques and tools necessary to solve problems or carry out research tasks specific to that discipline;

2. in other scientific disciplines, enabling the creative identification and innovative solving of complex problems or the performance of research tasks, including within cooperation in interdisciplinary teams.
3. Specialist classes lead to the development of key competences specific to a given scientific discipline. Therefore, they are implemented using a variety of teaching methods and organizational forms, such as lectures, seminars, as well as research and methodological workshops, including those devoted to the use of specialist research methods and tools.

§ 3

1. In the curriculum, ECTS credits are assigned to all forms of classes completed by the doctoral candidate, as referred to in § 2(1).
2. The curriculum specifies the annual number of ECTS credits that a doctoral candidate should obtain within homogeneous groups of classes, in particular:
 1. compulsory classes, including doctoral seminars;
 2. scientific conferences and seminars;
 3. university seminars – interdisciplinary and specialist;
 4. specialist workshops, including those conducted by international experts and practitioners.
3. The allocation of ECTS credits takes into account the scope of the doctoral candidate's activity, including the form of presenting their own achievements.
4. ECTS credits are not assigned for professional practice carried out in the form of teaching or assisting in teaching classes, as referred to in § 1(3).
5. Classes completed as part of international exchange may be counted towards the courses referred to in item 2(1), and research internships, including international internships, may be counted towards the courses referred to in item 2(2–4), in accordance with the Regulations of the Doctoral School.
6. It is permissible to obtain part of the learning outcomes using distance learning methods and techniques.

§ 4

1. The curriculum of the University's doctoral school enables doctoral students to obtain at least 36 ECTS credits, which constitute the basis for assessing progress in its implementation, as referred to in the Regulations of the Doctoral School.
2. The core element of the curriculum is composed of modules within which compulsory courses are implemented, amounting to 21 ECTS credits:
 1. Module 1 – Conducting Research and Disseminating Research Results, including the following course blocks:
 - a) Dissemination of research results,
 - b) Presentation of research results,
 - c) Scientific writing,
 - d) Applying for research funding,
 - e) Organizing scientific events.
 2. Module 2 – Research Methodology, including the following course blocks:
 - a) Experimentation and modelling – basic level,
 - b) Experimentation and modelling – advanced level,
 - c) Data processing and analysis,
 - d) Specialized statistical workshops.

3. Module 3 – Doctoral Seminar.
4. Module 4 – Teaching Methodology in Higher Education, including the following course blocks:
 - a) Teaching methods in higher education,
 - b) Communication in science and higher education – how to speak so that we are listened to,
 - c) e-Education.
5. Module 5 – Intellectual Property Law, including the following course blocks:
 - a) Copyright law,
 - b) Industrial property law.
6. Module 6 – Scientific English, including the following course blocks:
 - a) Characteristics of Scientific English,
 - b) Scientific English in practice.
3. The individualization of doctoral education is ensured through specialized elective courses. The doctoral student selects these elective courses in consultation with their supervisor(s).
4. Elective courses include in particular specialized and interdisciplinary seminars – a total of 96 hours and 4 ECTS credits during the course of study. There is a possibility to combine hours from elective courses completed in two consecutive years.
5. Elective courses, as referred to in item 4, may include discipline-specific elective courses such as lectures, seminars, workshops, and courses designed for doctoral education. The need to implement such courses may be reported by individuals entrusted by the Rector with representing a given scientific discipline at the University, as well as by doctoral students, dissertation supervisors, and heads of units in which doctoral students conduct research. The procedure for approving such courses is specified in the Regulations of the Doctoral School.

§ 5

1. Seminars referred to in § 4 item 4(1) should enable doctoral students to achieve learning outcomes in the form of:
 1. knowledge – knowing the global scientific achievements in selected agricultural, engineering-technical, and economic sciences in the context of knowledge development in the discipline in which the doctoral dissertation is conducted, as well as the resulting implications for the economy and society;
 2. skills – being able to participate in the exchange of experience and ideas within selected agricultural, engineering-technical, and economic sciences in order to creatively identify and innovatively solve complex problems of the economy and society;
 3. social competence – being ready to undertake cognitive challenges and recognize the importance of knowledge in solving complex problems of the economy and society.
2. Participation in the courses included in the curriculum should be oriented towards achieving learning outcomes in the form of:
 1. knowledge – knowing the global scientific achievements in selected basic and applied sciences in the context of knowledge development in the discipline in which the doctoral dissertation is conducted and the resulting implications for the development of that discipline;
 2. skills – being able to analyze and creatively synthesize achievements in basic and applied sciences, and on this basis conduct critical evaluation of the

discipline in which the doctoral dissertation is carried out, as well as use a foreign language at a level enabling verification of global scientific achievements;

3. social competence – being ready to think and responsibly undertake scientific challenges in a comprehensive and independent manner.

§ 6

1. As part of specialized training, the doctoral student should also:
 1. complete at least a one-month international research internship related to their research, for which 4 ECTS credits must be assigned;
 2. actively participate in at least two international conferences, including at least one held abroad, for which 4 ECTS credits must be assigned.
2. Participation in the international exchange of ideas will enable the sharing of experiences and engagement in scientific discourse in an international environment, which will contribute to the development of the ethos of research communities.

§ 7

1. The doctoral student shall select specialized elective courses in consultation with their supervisor(s), no later than one month before the start of the relevant semester.
2. The principles for determining and approving the plan for the implementation of specialized elective courses are specified in the Regulations of the Doctoral School.

§ 8

1. An element of the curriculum of the University's doctoral school is the completion of professional practice in the form of teaching or assisting in teaching:
 1. In the second year of study, the doctoral student is required to participate in teaching classes for students for 24 hours per year.
 2. In the third and fourth years of study, the doctoral student is required to independently conduct 30 hours of classes per year.
2. If it is not possible to conduct classes as specified in item 1(2), the doctoral student is required to fulfil the obligation by participating in the teaching process instead.
3. ECTS credits are not assigned for professional practice carried out in the form of teaching or assisting in teaching.

§ 9

1. The learning outcomes corresponding to level 8 of the Polish Qualifications Framework are specified in Annex No. 1.
2. The framework characteristics of the curriculum are specified in Annex No. 2.
3. The characteristics of compulsory courses are specified in Annex No. 3.

§ 10

All doctoral students commencing education at the University's doctoral school are required to complete training in occupational health and safety, as well as necessary training regarding safety rules in research laboratories. The procedure and form of this training are regulated by separate provisions.

Polish Qualifications Framework (PQF)
Universal Characteristics of PQF Levels (Act of 22 December 2015
on the Integrated Qualifications System) – Level 8

Categories of Learning Outcome Characteristics	Description Component Code	Description of Learning Outcome
Knowledge: knows and understands	P8U_W	the global scientific and creative achievements and their implications for practice
Skills: is able to	P8U_U	analyze and creatively synthesize scientific and creative achievements in order to identify and solve research problems and those related to innovative and creative activity; create new elements of these achievements
		independently plan own development and inspire the development of others
		participate in the exchange of experiences and ideas, including in an international environment
Social competence: is ready to	P8U_UK	conduct independent research that expands existing scientific and creative achievements
		undertake challenges in professional and public spheres, taking into account their ethical dimension and responsibility for their consequences, and shaping patterns of appropriate conduct

Second-Level Characteristics of Learning Outcomes for Qualifications at PQF Levels 6–8
(Regulation of the Minister of Science and Higher Education of 14 November 2018) – Level 8

Categories of Learning Outcome Characteristics	Descriptive Categories – Aspects of Fundamental Importance	Component Code	Description of the Learning Outcome
Knowledge: knows and understands	Scope and depth – completeness of cognitive perspective and interrelations	P8S_WG	to an extent enabling revision of existing paradigms – the global body of knowledge, including theoretical foundations as well as general issues and selected specific issues relevant to a given scientific or artistic discipline main developmental trends of the scientific or artistic disciplines in which education is conducted research methodologies principles of disseminating the results of scientific activity, including through open access

	Context – conditions, implications	P8S_WK	fundamental dilemmas of contemporary civilization economic, legal, ethical, and other significant conditions of scientific activity basic principles of knowledge transfer to economic and social spheres, as well as commercialization of research results and related know-how
Skills: is able to	Application of knowledge – problems addressed and tasks performed	P8S_UW	use knowledge from various fields of science or art to creatively identify, formulate, and innovatively solve complex problems or perform research tasks, in particular: – define the aim and subject of scientific research, formulate a research hypothesis – develop research methods, techniques, and tools and apply them creatively – draw conclusions based on research results conduct critical analysis and evaluation of scientific research results, expert activities, and other creative work, as well as their contribution to the development of knowledge transfer research results to the economic and social spheres
	Communication – receiving and producing statements, disseminating knowledge in the scientific community, and using a foreign language	P8S_UK	communicate on specialist topics at a level enabling active participation in the international scientific community disseminate the results of scientific activity, including in popular forms initiate debate participate in scientific discourse use a foreign language at level B2 CEFR enabling participation in an international scientific and professional environment
	Work organization – planning and teamwork	P8S_UO	plan and carry out individual and team research or creative projects, including in an international environment
	Learning – planning one's own development and development of others	P8S_UU	independently plan and act for one's own development and inspire and organize the development of other people plan classes or groups of classes and conduct them using modern methods and tools

Social competence: is ready to	Evaluation – critical approach	P8S_KK	critically assess the achievements of a given scientific or artistic discipline critically assess one's own contribution to the development of the discipline recognize the importance of knowledge in solving cognitive and practical problems
	Responsibility – fulfilling social obligations and acting for the public good	P8S_KO	fulfil social obligations of researchers and creators initiate activities for the public good think and act in an entrepreneurial manner
	Professional role – independence and development of ethos	P8S_KR	uphold and develop the ethos of research and creative communities, including: – conducting scientific activity independently – respecting the principle of public ownership of scientific results, taking into account intellectual property protection principles

Framework Plan of Compulsory Courses

Modules and Course Blocks	ECTS	Total courses hours	including			
			lectures	seminars	workshops	exercises
Conducting Research and Disseminating Research Results	3	36	4	8	8	-
Dissemination of Research Results		12	4		8	
Editing Scientific Publications		4			4	
Organizing Scientific Events		6			6	
Applying for Research Funding		14		8	6	
Research Methodology	7	100	-	-	100	-
Experimentation and Modelling – Basic Level		20			20	
Experimentation and Modelling – Advanced Level		20			20	
Data Processing and Analysis		30			30	
Specialized Statistical Workshops		30			30	
Doctoral Seminar	2	24	-	24	-	-
Current Challenges in Science		12		12		
Evaluation of scientific progress		12		12		
Higher Education Pedagogy	2	24	4	-	20	-
Teaching Methods in Higher Education		4	4			
Communication in Science and Higher Education – How to Speak So That We Are Heard?		4			4	
e-Education		16			16	
Intellectual Property Law	1	8	4	-	4	-
Copyright Law		4	4			
Industrial Property Law		4			4	
Scientific English	6	80	-	-	50	30
Specificity of Scientific English		30				30
Scientific English in Practice		50			50	
Total Compulsory Courses	21	272	12	32	182	30
Elective Specialist Courses	17	156	60	96	-	-
Specialist and Interdisciplinary Seminars	5	96		96		
Programme Courses within the Study Field	4	60	60			
International Internship	4					
Scientific Conferences	4					
Professional Teaching Practice	-	84	-	-	-	84
Total Facultative Courses	17	240	60	96	0	84
Total Curriculum	38	512	72	128	188	114

Annex 3

ECTS balance

Course	Year and semester								Total
	I		II		III		IV		
	1	2	3	4	5	6	7	8	
Conducting Research and Disseminating Research Results	1	1,0		1,0					3,0
Research Methodology	1,5	1,5	2,0	2,0					7,0
Doctoral Seminar		0,5		0,5		0,5		0,5	2,0
Higher Education Pedagogy			1,0	1,0					2,0
Intellectual Property Law					1,0				1,0
Scientific English	2,5	2,5				1,0			6,0
TOTAL COMPULSORY COURSES - ECTS BALANCE	5,0	6,0	3,0	4,0	1,0	1,5	0,0	0,5	21,0
Specialist and Interdisciplinary Seminars	1,0		1,0		1,5		1,5		5,0
Programme Courses within the Study Field	1,0		1,0		1,0		1,0		4,0
International Internship					2,0		2,0		4,0
Scientific Conferences					2,0		2,0		4,0
TOTAL FACULTATIVE COURSES - ECTS BALANCE	2,0		2,0		6,5		6,5		17,0
Professional Teaching Practice									-
TOTAL ECTS BALANCE	13,0		9,0		9,0		7,0		38,0

Balance of hours

Course	Year and semester								Total
	I		II		III		IV		
	1	2	3	4	5	6	7	8	
Conducting Research and Disseminating Research Results	12	18		6					36
Research Methodology	20	20	30	30					100
Doctoral Seminar		6		6		6		6	24
Higher Education Pedagogy			8	16					24
Intellectual Property Law					8				8
Scientific English	30	30				20			80
TOTAL COMPULSORY COURSES – BALANCE OF HOURS	62	74	38	58	8	26	0	6	272
Specialist and Interdisciplinary Seminars	24		24		24		24		96
Programme Courses within the Study Field	15		15		15		15		60
International Internship									-
Scientific Conferences									-
TOTAL FACULTATIVE COURSES – BALANCE OF HOURS	39		39		39		39		156
Professional Teaching Practice			24		30		30		84
TOTAL BALANCE OF HOURS	175		159		103		75		512

Compulsory modules

Doctroal School

Compulsory Module:		Conducting Research and Disseminating Research Results	
ECTS	3	Total number of hours	36
Semester	1 ; 2; 4	including: lectures	4
		seminars	8
		workshops	24
		exercises	-
		Total self-work	36

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDB_W1	principles of disseminating research results	P8S_WG
SDB_W2	has knowledge of the possibilities of obtaining external funding for scientific research	P8S_WG
SDB_W3	principles of preparing a scientific publication	P8S_WG
SDB_W4	evaluation of research units and academic staff	P8S_WG
SDB_W5	possible career development paths and professional advancement opportunities	P8S_WG
SKILLS – is able to:		
SDB_U1	independently prepare and edit scientific articles	P8S_UW
SDB_U2	present the obtained research results	P8S_UK
SDB_U3	apply for research funding and plan research projects – both individual and team-based	P8S_UO
SDB_U4	design and plan the development of their own academic career	P8S_UU
SOCIAL COMPETENCES – is ready to:		
SDB_K1	critically evaluating the results of one's own research and the scholarly output of the discipline	P8S_KK
SDB_K2	developing cooperation within the academic community and disseminating scientific activity	P8S_KR
SDB_K3	conducting scientific research in an independent manner	P8S_KR
SDB_K4	undertaking scientific and research challenges while maintaining their ethical dimension	P8S_KO

Content:

Lectures	4 hours
Course	Dissemination of Research Results
Content:	Quality of scientific publications; Forms of publishing research results; Peer-review system; Global rankings of research institutions and an overview of leaders in various disciplines; Bibliometric indicators; Methods of evaluating research institutions;
Topics and Scope of Classes	Methods of evaluating scientific achievements
Assessment method	Quiz

Workshop		8	hours
Course Content: Topics and Scope of Classes	Dissemination of Research Results Preparation, delivery, and evaluation of a scientific presentation (preparation for participation in a scientific conference); preparation and publication of a popular-science article on a topic selected by the doctoral student; preparation of a promotional article / organization of an event (e.g., a social media post, participation in the Science Festival, Open Days of the University) aimed at popularizing science and promoting the University.		
Assessment method	Preparing a presentation and article/event		
Workshop		4	hours
Course Content: Topics and Scope of Classes	Editing Scientific Publications Structure of a scientific publication, selection of an appropriate journal; editorial requirements; use of databases and scientific publication search engines; publication language; editing; promoting publications; submission of a manuscript to an editorial office using a real scientific journal as an example; software for creating bibliographies; writing a Cover Letter		
Assessment method	Project for credit		
Workshop		6	hours
Course Content: Topics and Scope of Classes	Organizing scientific events Organization of workshops and scientific conferences in both remote and traditional formats		
Assessment method	Project for credit		
Seminar		8	hours
Course Content: Topics and Scope of Classes	<u>Applying for Research Funding</u> Overview of institutions and foundations funding science (including NCN, NCBiR, FNP); types and formats of grant calls; rules for applying for research grants; rules for implementing research projects; rules for settling (accounting for) research projects; overview of scholarship programs and competitions aimed at doctoral students and early-career researchers; overview of opportunities for funding international research internships.		
Assessment method	Project for credit		

Compulsory Module: Research methodology

ECTS	7	Total number of hours	100
Semester	1; 2; 3; 4	including: lectures	-
		seminars	-
		workshops	100
		exercises	-
		Total self-work	70

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDM_W1	Methods of planning research and methods of experimental studies	P8S_WG
SDM_W2	Methods and techniques for data analysis and interpretation of experimental results	P8S_WG
SDM_W3	Computer software for data analysis and presentation of research results	P8S_WG
SKILLS – is able to:		
SDM_U1	Select and apply appropriate methodologies for conducting scientific research	P8S_UW
SDM_U2	Select suitable research methods, techniques, and tools; use appropriate software; and collect, analyze, and interpret data	P8S_UO
SDM_U3	Develop research methods and techniques	P8S_UW
SOCIAL COMPETENCES – is ready to:		
SDM_K1	Objective evaluation of observed phenomena in nature	P8S_KK
SDM_K2	Appreciates the need for continuous improvement of qualifications in the field of experimental methods	P8S_KK

Content::

Workshop	20	hours
Course Content: Topics and Scope of Classes	Experimentation and Modelling – Basic Level Definition of science; Inductionism and hypothetism; Basics of statistics; General principles of planning and conducting scientific experiments (identifying the research problem, formulating the research hypothesis, sample selection, data collection, construction and verification of statistical hypotheses, selection of statistical tests, control group, cross-over experiment); Distribution testing; Tests of independence of two variables and randomness of a sample – significance tests; Parametric and non-parametric tests; Correlation and regression; Simple linear regression and multiple regression; Nonlinear regression; Qualitative variables in statistical modelling	
Assessment method	Task execution	
Workshop	20	hours
	Experimentation and Modelling – Advanced Level	

Course Content: Topics and Scope of Classes	Analysis of variance (extension – multifactorial, interaction, and repeated-measures designs); Linear and nonlinear regression analysis (extension, mixed models, additive models); Cluster analysis; Generalized cluster analysis: EM algorithm; Time series analysis; Generalized Additive Models (GAM); Boosted Classification Trees; Neural networks
Assessment method	Task execution
Workshop	
Course Content: Topics and Scope of Classes	30 hours
Course Content: Topics and Scope of Classes	Data Processing and Analysis Performing practical tasks using methods discussed in earlier courses in the areas of: data acquisition, collection, and processing, conducting statistical analysis and modelling, using information technologies and available software.
Assessment method	Task execution
Workshop	
Course Content: Topics and Scope of Classes	30 hours
Course Content: Topics and Scope of Classes	Specialized Statistical Workshops Specificity of statistical analysis in a given discipline: Formulating hypotheses and designing experiments; Overview of the most commonly used statistical tools; Methods of data presentation
Assessment method	Task execution

Compulsory Module: Doctoral seminar

ECTS	2	Total number of hours	24
Semester	2; 4; 6; 8	including: lectures	-
		seminars	24
		workshops	-
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDS_W1	The current state of knowledge in the pursued scientific discipline	P8S_WG
SDS_W2	The most important and current research problems in various scientific disciplines	P8S_WG
SDS_W3	Civilizational dilemmas and developmental trends in research methods across different scientific disciplines	P8S_WK
SKILLS – is able to:		
SDS_U1	Formulate and justify the research problems undertaken	P8S_UW
SDS_U2	Use up-to-date knowledge in the given research discipline to justify the research problem and interpret results	P8S_UW
SDS_U3	Communicate on specialist topics, initiate debate, and participate in scientific discourse	P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDS_K1	Critical evaluation of one's own academic output and that of other researchers	P8S_KK
SDS_K2	Using up-to-date scientific knowledge to solve important environmental, social, and economic problems	P8S_KO

Content:

Seminar part 1		12	hours
Course Content:	<u>Current challenges of science</u>		
Topics and Scope of Classes	Current research challenges in the individual disciplines represented by the doctoral students; Preparation and delivery of a presentation on the state of knowledge and current challenges in the thematic area undertaken by the doctoral student		
Assessment method	Power point presentation		
Seminar part 2		12	hours
Course Content:	<u>Evaluation of scientific progress</u>		
Topics and Scope of Classes	Reporting current progress in scientific work at the end of each academic year during the general seminar of the doctoral school		
Assessment method	Power point presentation		

Compulsory Module: Higher Education Pedagogy

ECTS	2	Total number of hours	24
Semester	3; 4	including: lectures	4
		seminars	-
		workshops	20
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDP_W1	Principles and methods of teaching in higher education necessary for conducting academic classes	P8S_WG
SDP_W2	Principles of knowledge transfer in university teaching, including the use of distance-learning methods	P8S_WK
SKILLS – is able to:		
SDP_U1	Use knowledge from various fields of science to plan and conduct academic classes	P8S_UW P8S_UK
SDP_U2	Prepare and deliver teaching courses using information technology tools	P8S_UU P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDP_K1	Fulfilling social obligations in the education of managerial staff based on the latest scientific achievements	P8S_KO

Contents:

Lectures		4	hours
Course Content:	Teaching methods in higher education didactics		
Topics and Scope of Classes	Types of methods used in higher education didactics: lecture, seminar, talk, discussion and tribunal method, exercise and demonstration methods, educational game methods, situational method and brainstorming, project method		
Assessment method	Lesson plan draft		
Workshop		4	hours
Course Content:	Communication in Science and Higher Education – How to Speak So That We Are Heard?		
Topics and Scope of Classes	Presentations and speeches using visual aids; Motivating audiences to listen; Conducting conversations; Chairing and participating in scientific discussions; Effectively conducting classes with learners		
Assessment method	Assessment of class participation and activity		
Workshop		16	hours
	e-education		

Course
Content: Methodology of remote teaching; Forms of presentation in remote education;
Topics and Technical capabilities for conducting group training and educational software;
Scope of Structure of an e-learning course
Classes

Assessment method	Project of the e-learning course

Doctoral School

Compulsory module: Intellectual Property Law

ECTS	1	Total number of hours	8
Semester	5	including: lectures	4
		seminars	-
		workshops	4
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDJ_W1	Legal, ethical, and economic conditions for conducting scientific activity and disseminating its results	P8S_WK
SDJ_W2	Principles of commercializing the results of research and innovation activities	P8S_WK
SKILLS – is able to:		
SDJ_U1	Transfer research results to the economic and social sectors in compliance with legal principles	P8S_UW
SOCIAL COMPETENCES – is ready to:		
SDJ_K1	Act for the benefit of an innovative economy and society	P8S_KO

Contents:

Lectures	4	hours

Course	Copyright Law
Content:	
Topics and Scope of	Sources of law, subject matter of law, scope and principles of protection, principles of fair use of protected works
Classes	

Assessment method	Assessment of the activity during lectures

Warsztaty	4	hours

Course	<u>Industrial Property Law</u>
Content:	
Topics and Scope of	Inventions, utility models, industrial designs, trademarks, designations, semiconductor topographies, rationalization projects
Classes	

Assessment method	Final project / Project for course credit

Compulsory Module: Scientific English

ECTS	4 6	Total number of hours	80
Semester	1; 2; 6	including: lectures	-
		seminars	-
		workshops	50
		exercises	30
		Total self-work	

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDE_W1	Useful phrases and grammatical structures in a foreign language necessary for conducting scientific activity	P8S_WG
SDE_W2	Principles of preparing documentation and presentations in a foreign language	P8S_WG
SKILLS – is able to:		
SDE_U1	Communicate in a foreign language in a way that enables participation in scientific discourse	P8S_UK
SDE_U2	Prepare scientific articles and documentation in a foreign language using appropriate terminology	P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDE_K1	Continuous learning and improving language competences	P8S_KK

Exercises

Exercises	30	hours
Course	Specificity of Scientific English	
Content:		
Topics and		
Scope of	Useful phrases and grammatical structures	
Classes		
Assessment method	Written credit	
Workshop	50	hours
Course	Scientific English in Practice	
Content:	Preparing a professional CV; Writing and publishing a popular science article;	
Topics and	Preparing an application for an international research internship; Preparing and	
Scope of	publishing a short academic biography in English on the institution's website;	
Classes	Preparing for presentations at international scientific conferences; Chairing	
	conferences and discussion panels in English	
Assessment method	Project for course credit	

**Curriculum of the European Horticulture (EUROHORT)
Education Program at the Doctoral School of the Hugo Kołłątaj University of
Agriculture in Kraków**

§ 1

1. The European Horticulture Education Program (hereinafter referred to as EUROHORT) is implemented at the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków in cooperation with Mendel University in Brno (Czech Republic), on the basis of the "Agreement of Interuniversity Cooperation between Mendel University in Brno, Faculty of Horticulture – MUHF, Lednice, Czech Republic and the University of Agriculture in Krakow, Faculty of Biotechnology and Horticulture, Krakow, Poland," signed on May 5, 2017 by Prof. Ing. Robert Pokluda, Dean of MUHF, and Prof. Stanisław Mazur, PhD, Dean of the Faculty of Biotechnology and Horticulture.

§ 2

1. Doctoral training in the Doctoral School in the EUROHORT program lasts eight semesters. It is conducted on the basis of a curriculum which enables doctoral candidates to achieve the learning outcomes appropriate for a full qualification at level 8 of the Polish Qualifications Framework, as referred to in the provisions on the Integrated Qualifications System, in the form of:
 1. advanced knowledge that significantly influences the development of the field related to the area of the conducted scientific research, including the latest scientific achievements;
 2. skills related to the methods and methodology of conducting scientific research, as well as the analysis and creative synthesis of scientific achievements, for the purpose of identifying and solving research problems and creating new elements of these achievements;
 3. social competences relating to research activity and the social role of a scholar, including undertaking challenges in the professional and public sphere, with consideration of their ethical dimension.
2. The learning outcomes correspond to the fields and disciplines of science, in accordance with the rights held by the University.
3. The curriculum of EUROHORT program provides for doctoral candidates to undertake professional practice in the form of conducting or co-conducting classes.
4. The curriculum of EUROHORT program is implemented in Polish or in English. The Director of the Doctoral School may decide that the entire curriculum for specific groups of doctoral candidates, in particular for foreigners, be delivered in English.

§ 3

1. The curriculum of EUROHORT program allows for a high degree of individualization of doctoral training. It specifies:

1. compulsory general courses, aimed mainly at doctoral candidates of a given cohort;
2. specialist elective courses, in which the doctoral candidate's participation depends on the topic, scope and level of advancement in the implementation of the Individual Research Plan.
2. In particular, the curriculum of EUROHORT program defines subjects, workshops and seminars as well as other classes and activities, the completion of which enables the achievement of the intended learning outcomes, including courses that broaden knowledge and skills:
 1. in a given scientific discipline, enabling the implementation of research and the application and creative development of research methods, techniques and tools necessary to solve problems or carry out research tasks specific to that discipline;
 2. in other scientific disciplines, enabling the creative identification and innovative solving of complex problems or the performance of research tasks, including within cooperation in interdisciplinary teams.
3. Specialist classes lead to the development of key competences specific to a given scientific discipline. Therefore, they are implemented using a variety of teaching methods and organizational forms, such as lectures, seminars, as well as research and methodological workshops, including those devoted to the use of specialist research methods and tools.

§ 4

1. In the curriculum of EUROHORT program, ECTS credits are assigned to all forms of classes completed by the doctoral candidate, as referred to in § 3(1).
2. The curriculum specifies the annual number of ECTS credits that a doctoral candidate should obtain within homogeneous groups of classes, in particular:
 1. compulsory classes, including doctoral seminars;
 2. scientific conferences and seminars;
 3. university seminars – interdisciplinary and specialist;
 4. specialist workshops, including those conducted by international experts and practitioners.
3. The allocation of ECTS credits takes into account the scope of the doctoral candidate's activity, including the form of presenting their own achievements.
4. ECTS credits are not assigned for professional practice carried out in the form of teaching or assisting in teaching classes, as referred to in § 2(3).
5. Classes completed as part of international exchange may be counted towards the courses referred to in item 2(1), and research internships, including international internships, may be counted towards the courses referred to in item 2(2–4), in accordance with the Regulations of the Doctoral School.
6. It is permissible to obtain part of the learning outcomes using distance learning methods and techniques.

§ 5

1. The curriculum of EUROHORT program enables doctoral students to obtain at least 40 ECTS credits, which constitute the basis for assessing progress in its implementation, as referred to in the Regulations of the Doctoral School.

2. The core element of the curriculum of EUROHORT program is composed of modules within which compulsory courses are implemented, amounting to 21 ECTS credits:
 1. Module 1 – Conducting Research and Disseminating Research Results, including the following course blocks:
 - a) Dissemination of research results,
 - b) Presentation of research results,
 - c) Scientific writing,
 - d) Applying for research funding,
 - e) Organizing scientific events.
 2. Module 2 – Research Methodology, including the following course blocks:
 - a) Experimentation and modelling – basic level,
 - b) Experimentation and modelling – advanced level,
 - c) Data processing and analysis,
 - d) Specialized statistical workshops.
 3. Module 3 – Doctoral Seminar.
 4. Module 4 – Teaching Methodology in Higher Education, including the following course blocks:
 - a) Teaching methods in higher education,
 - b) Communication in science and higher education – how to speak so that we are listened to,
 - c) e-Education.
 5. Module 5 – Intellectual Property Law, including the following course blocks:
 - a) Copyright law,
 - b) Industrial property law.
 6. Module 6 – Scientific English, including the following course blocks:
 - a) Characteristics of Scientific English,
 - b) Scientific English in practice.
3. The individualization of doctoral education is ensured through specialized elective courses. The doctoral student selects these elective courses in consultation with their supervisor(s).
4. Elective courses include in particular specialized and interdisciplinary seminars – a total of 96 hours and 4 ECTS credits during the course of study. There is a possibility to combine hours from elective courses completed in two consecutive years.
5. Elective courses, as referred to in item 4, may include discipline-specific elective courses such as lectures, seminars, workshops, and courses designed for doctoral education. The need to implement such courses may be reported by individuals entrusted by the Rector with representing a given scientific discipline at the University, as well as by doctoral students, dissertation supervisors, and heads of units in which doctoral students conduct research. The procedure for approving such courses is specified in the Regulations of the Doctoral School.

§ 6

1. Attending the courses of EUROHORT program should enable doctoral students to achieve learning outcomes in the form of:
 1. knowledge – knowing the global scientific achievements in selected agricultural, engineering-technical, and economic sciences in the context of knowledge development in the discipline in which the doctoral dissertation is conducted, as well as the resulting implications for the economy and society;

2. skills – being able to participate in the exchange of experience and ideas within selected agricultural, engineering-technical, and economic sciences in order to creatively identify and innovatively solve complex problems of the economy and society;
 3. social competence – being ready to undertake cognitive challenges and recognize the importance of knowledge in solving complex problems of the economy and society.
2. Participation in the courses included in the curriculum should be oriented towards achieving learning outcomes in the form of:
1. knowledge – knowing the global scientific achievements in selected basic and applied sciences in the context of knowledge development in the discipline in which the doctoral dissertation is conducted and the resulting implications for the development of that discipline;
 2. skills – being able to analyze and creatively synthesize achievements in basic and applied sciences, and on this basis conduct critical evaluation of the discipline in which the doctoral dissertation is carried out, as well as use a foreign language at a level enabling verification of global scientific achievements;
 3. social competence – being ready to think and responsibly undertake scientific challenges in a comprehensive and independent manner.

§ 7

1. As part of specialized training, the doctoral student should also:
 1. complete at least a one-month international research internship related to their research, for which 4 ECTS credits must be assigned;
 2. actively participate in at least two international conferences, including at least one held abroad, for which 4 ECTS credits must be assigned.
2. Participation in the international exchange of ideas will enable the sharing of experiences and engagement in scientific discourse in an international environment, which will contribute to the development of the ethos of research communities.

§ 8

1. The doctoral student shall select specialized elective courses in consultation with their supervisor(s), no later than one month before the start of the relevant semester.
2. The principles for determining and approving the plan for the implementation of specialized elective courses are specified in the Regulations of the Doctoral School.

§ 9

1. An element of the curriculum of EUROHORT program is the completion of professional practice in the form of teaching or assisting in teaching:
 1. In the second year of study, the doctoral student is required to participate in teaching classes for students for 24 hours per year.
 2. In the third and fourth years of study, the doctoral student is required to independently conduct 30 hours of classes per year.
2. If it is not possible to conduct classes as specified in item 1(2), the doctoral student is required to fulfil the obligation by participating in the teaching process instead.

3. ECTS credits are not assigned for professional practice carried out in the form of teaching or assisting in teaching.

§ 10

1. The learning outcomes corresponding to level 8 of the Polish Qualifications Framework are specified in Annex No. 1.
2. The framework characteristics of the curriculum of EUROHORT program are specified in Annex No. 2.
3. The characteristics of compulsory courses and the Joint Dissertation Colloquium course are specified in Annex No. 3.

§ 11

All doctoral students commencing education at the University's doctoral school are required to complete training in occupational health and safety, as well as necessary training regarding safety rules in research laboratories. The procedure and form of this training are regulated by separate provisions.

Polish Qualifications Framework (PQF)
Universal Characteristics of PQF Levels (Act of 22 December 2015
on the Integrated Qualifications System) – Level 8

Categories of Learning Outcome Characteristics	Description Component Code	Description of Learning Outcome
Knowledge: knows and understands	P8U_W	the global scientific and creative achievements and their implications for practice
Skills: is able to	P8U_U	analyze and creatively synthesize scientific and creative achievements in order to identify and solve research problems and those related to innovative and creative activity; create new elements of these achievements
		independently plan own development and inspire the development of others
		participate in the exchange of experiences and ideas, including in an international environment
Social competence: is ready to	P8U_UK	conduct independent research that expands existing scientific and creative achievements
		undertake challenges in professional and public spheres, taking into account their ethical dimension and responsibility for their consequences, and shaping patterns of appropriate conduct

Second-Level Characteristics of Learning Outcomes for Qualifications at PQF Levels 6–8
(Regulation of the Minister of Science and Higher Education of 14 November 2018) – Level 8

Categories of Learning Outcome Characteristics	Descriptive Categories – Aspects of Fundamental Importance	Component Code	Description of the Learning Outcome
Knowledge: knows and understands	Scope and depth – completeness of cognitive perspective and interrelations	P8S_WG	to an extent enabling revision of existing paradigms – the global body of knowledge, including theoretical foundations as well as general issues and selected specific issues relevant to a given scientific or artistic discipline main developmental trends of the scientific or artistic disciplines in which education is conducted research methodologies principles of disseminating the results of scientific activity, including through open access

	Context – conditions, implications	P8S_WK	fundamental dilemmas of contemporary civilization economic, legal, ethical, and other significant conditions of scientific activity basic principles of knowledge transfer to economic and social spheres, as well as commercialization of research results and related know-how
Skills: is able to	Application of knowledge – problems addressed and tasks performed	P8S_UW	use knowledge from various fields of science or art to creatively identify, formulate, and innovatively solve complex problems or perform research tasks, in particular: – define the aim and subject of scientific research, formulate a research hypothesis – develop research methods, techniques, and tools and apply them creatively – draw conclusions based on research results conduct critical analysis and evaluation of scientific research results, expert activities, and other creative work, as well as their contribution to the development of knowledge transfer research results to the economic and social spheres
	Communication – receiving and producing statements, disseminating knowledge in the scientific community, and using a foreign language	P8S_UK	communicate on specialist topics at a level enabling active participation in the international scientific community disseminate the results of scientific activity, including in popular forms initiate debate participate in scientific discourse use a foreign language at level B2 CEFR enabling participation in an international scientific and professional environment
	Work organization – planning and teamwork	P8S_UO	plan and carry out individual and team research or creative projects, including in an international environment
	Learning – planning one's own development and development of others	P8S_UU	independently plan and act for one's own development and inspire and organize the development of other people plan classes or groups of classes and conduct them using modern methods and tools

Social competence: is ready to	Evaluation – critical approach	P8S_KK	critically assess the achievements of a given scientific or artistic discipline critically assess one's own contribution to the development of the discipline recognize the importance of knowledge in solving cognitive and practical problems
	Responsibility – fulfilling social obligations and acting for the public good	P8S_KO	fulfil social obligations of researchers and creators initiate activities for the public good think and act in an entrepreneurial manner
	Professional role – independence and development of ethos	P8S_KR	uphold and develop the ethos of research and creative communities, including: – conducting scientific activity independently – respecting the principle of public ownership of scientific results, taking into account intellectual property protection principles

Framework Plan of Compulsory Courses

Modules and Course Blocks	ECTS	Total courses hours	including			
			lectures	seminars	workshops	exercises
Conducting Research and Disseminating Research Results	3	36	4	8	8	-
Dissemination of Research Results		12	4		8	
Editing Scientific Publications		4			4	
Organizing Scientific Events		6			6	
Applying for Research Funding		14		8	6	
Research Methodology	7	100	-	-	100	-
Experimentation and Modelling – Basic Level		20			20	
Experimentation and Modelling – Advanced Level		20			20	
Data Processing and Analysis		30			30	
Specialized Statistical Workshops		30			30	
Doctoral Seminar	2	24	-	24	-	-
Current Challenges in Science		12		12		
Evaluation of scientific progress		12		12		
Higher Education Pedagogy	2	24	4	-	20	-
Teaching Methods in Higher Education		4	4			
Communication in Science and Higher Education – How to Speak So That We Are Heard?		4			4	
e-Education		16			16	
Intellectual Property Law	1	8	4	-	4	-
Copyright Law		4	4			
Industrial Property Law		4			4	
Scientific English	6	80	-	-	50	30
Specificity of Scientific English		30				30
Scientific English in Practice		50			50	
Total Compulsory Courses	21	272	12	32	198	30
Elective Specialist Courses	19	168	36	96	-	36
Joint Dissertation Colloquium	5	96		96		
Programme Courses (including those in a partner University)	6	72	36			36
International Internship	4					
Scientific Conferences	4					
Professional Teaching Practice	-	84	-	-	-	84
Total Facultative Courses	19	252	36	96	0	120
Total Curriculum	40	512	48	128	198	150

Courses proposed in the Mendel University in Brno (Czech Republic) and URK – a list of electives

Courses	Total hours
(Mendla University in Brno)	
Biotechnology in Horticulture	24
Instrumental Analysis	24
Stress Factors in Horticultural Production	24
Enology	24
Breeding of Fruit Crops	24
Molecular Plant Physiology	24
Food Chemistry and Biotechnology	24
Beverage Microbiology	24
Environmental Chemistry	24
International Trade	24
(University of Agriculture in Krakow)	
Biodiversity of Vegetable Plants	24
Herbal and Medicinal Plants	24
Integrated Protection of Horticultural Crops	24
Modern Instrumental Methods for Assessing the Quality of Herbs, Vegetables, and Other Cultivated Plants	24
Molecular Biology	24
Molecular Breeding	24
Organic Horticulture	24
Oxidative Stress and the Antioxidant System of Plants	24
Use of Tissue Cultures in the Improvement of Crop Plants	24
Urban Horticulture	24

Annex 3

ECTS balance

Course	Year and semester								Total
	I		II		III		IV		
	1	2	3	4	5	6	7	8	
Conducting Research and Disseminating Research Results	1,0	1,0		1,0					3,0
Research Methodology	1,5	1,5	2,0	2,0					7,0
Doctoral Seminar		0,5		0,5		0,5		0,5	2,0
Higher Education Pedagogy			1,0	1,0					2,0
Intellectual Property Law					1,0				1,0
Scientific English	2,5	2,5				1,0			6,0
TOTAL COMPULSORY COURSES - ECTS BALANCE	5,0	5,5	3,0	4,5	1,0	1,5	0,0	0,5	21,0
Joint Dissertation Colloquium			1,5		1,5		1,5		5,0
Programme Courses (including those in a partner University)	2,0		2,0		2,0				6,0
International Internship					4,0				4,0
Scientific Conferences					2,0		2,0		4,0
TOTAL FACULTATIVE COURSES - ECTS BALANCE	2,0		3,5		9,5		4,0		19,0
Professional Teaching Practice									-
TOTAL ECTS BALANCE	12,5		11,0		12,0		4,5		40,0

Balance of hours

Course	Year and semester								Total
	I		II		III		IV		
	1	2	3	4	5	6	7	8	
Conducting Research and Disseminating Research Results	12	18		6					36
Research Methodology	20	20	30	30					100
Doctoral Seminar		6		6		6		6	24
Higher Education Pedagogy			8	16					24
Intellectual Property Law					8				8
Scientific English	30	30				20			80
TOTAL COMPULSORY COURSES – BALANCE OF HOURS	62	74	38	58	8	26	0	6	272
Joint Dissertation Colloquium			32		32		32		96
Programme Courses (including those in a partner University)	24		24		24				72
International Internship									-
Scientific Conferences									-
TOTAL FACULTATIVE COURSES – BALANCE OF HOURS	24		56		56		32		168
Professional Teaching Practice			24		30		30		84
TOTAL BALANCE OF HOURS	160		176		120		68		524

Compulsory modules

Doctroal School

Compulsory Module:		Conducting Research and Disseminating Research Results	
ECTS	3	Total number of hours	36
Semester	1 ; 2; 4	including: lectures	4
		seminars	8
		workshops	24
		exercises	-
		Total self-work	36

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDB_W1	principles of disseminating research results	P8S_WG
SDB_W2	has knowledge of the possibilities of obtaining external funding for scientific research	P8S_WG
SDB_W3	principles of preparing a scientific publication	P8S_WG
SDB_W4	evaluation of research units and academic staff	P8S_WG
SDB_W5	possible career development paths and professional advancement opportunities	P8S_WG
SKILLS – is able to:		
SDB_U1	independently prepare and edit scientific articles	P8S_UW
SDB_U2	present the obtained research results	P8S_UK
SDB_U3	apply for research funding and plan research projects – both individual and team-based	P8S_UO
SDB_U4	design and plan the development of their own academic career	P8S_UU
SOCIAL COMPETENCES – is ready to:		
SDB_K1	critically evaluating the results of one's own research and the scholarly output of the discipline	P8S_KK
SDB_K2	developing cooperation within the academic community and disseminating scientific activity	P8S_KR
SDB_K3	conducting scientific research in an independent manner	P8S_KR
SDB_K4	undertaking scientific and research challenges while maintaining their ethical dimension	P8S_KO

Content:

Lectures	4 hours
Course	Dissemination of Research Results
Content:	Quality of scientific publications; Forms of publishing research results; Peer-review system; Global rankings of research institutions and an overview of leaders in various disciplines; Bibliometric indicators; Methods of evaluating research institutions;
Topics and Scope of Classes	Methods of evaluating scientific achievements
Assessment method	Quiz

Workshop		8	hours
Course Content: Topics and Scope of Classes	Dissemination of Research Results Preparation, delivery, and evaluation of a scientific presentation (preparation for participation in a scientific conference); preparation and publication of a popular-science article on a topic selected by the doctoral student; preparation of a promotional article / organization of an event (e.g., a social media post, participation in the Science Festival, Open Days of the University) aimed at popularizing science and promoting the University.		
Assessment method	Preparing a presentation and article/event		
Workshop		4	hours
Course Content: Topics and Scope of Classes	Editing Scientific Publications Structure of a scientific publication, selection of an appropriate journal; editorial requirements; use of databases and scientific publication search engines; publication language; editing; promoting publications; submission of a manuscript to an editorial office using a real scientific journal as an example; software for creating bibliographies; writing a Cover Letter		
Assessment method	Project for credit		
Workshop		6	hours
Course Content: Topics and Scope of Classes	Organizing scientific events Organization of workshops and scientific conferences in both remote and traditional formats		
Assessment method	Project for credit		
Seminar		8	hours
Course Content: Topics and Scope of Classes	<u>Applying for Research Funding</u> Overview of institutions and foundations funding science (including NCN, NCBiR, FNP); types and formats of grant calls; rules for applying for research grants; rules for implementing research projects; rules for settling (accounting for) research projects; overview of scholarship programs and competitions aimed at doctoral students and early-career researchers; overview of opportunities for funding international research internships.		
Assessment method	Project for credit		

Compulsory Module: Research methodology

ECTS	7	Total number of hours	100
Semester	1; 2; 3; 4	including: lectures	-
		seminars	-
		workshops	100
		exercises	-
		Total self-work	70

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDM_W1	Methods of planning research and methods of experimental studies	P8S_WG
SDM_W2	Methods and techniques for data analysis and interpretation of experimental results	P8S_WG
SDM_W3	Computer software for data analysis and presentation of research results	P8S_WG
SKILLS – is able to:		
SDM_U1	Select and apply appropriate methodologies for conducting scientific research	P8S_UW
SDM_U2	Select suitable research methods, techniques, and tools; use appropriate software; and collect, analyze, and interpret data	P8S_UO
SDM_U3	Develop research methods and techniques	P8S_UW
SOCIAL COMPETENCES – is ready to:		
SDM_K1	Objective evaluation of observed phenomena in nature	P8S_KK
SDM_K2	Appreciates the need for continuous improvement of qualifications in the field of experimental methods	P8S_KK

Content::

Workshop	20	hours
Course Content: Topics and Scope of Classes	Experimentation and Modelling – Basic Level Definition of science; Inductionism and hypothetism; Basics of statistics; General principles of planning and conducting scientific experiments (identifying the research problem, formulating the research hypothesis, sample selection, data collection, construction and verification of statistical hypotheses, selection of statistical tests, control group, cross-over experiment); Distribution testing; Tests of independence of two variables and randomness of a sample – significance tests; Parametric and non-parametric tests; Correlation and regression; Simple linear regression and multiple regression; Nonlinear regression; Qualitative variables in statistical modelling	
Assessment method	Task execution	
Workshop	20	hours
	Experimentation and Modelling – Advanced Level	

Course Content: Topics and Scope of Classes	Analysis of variance (extension – multifactorial, interaction, and repeated-measures designs); Linear and nonlinear regression analysis (extension, mixed models, additive models); Cluster analysis; Generalized cluster analysis: EM algorithm; Time series analysis; Generalized Additive Models (GAM); Boosted Classification Trees; Neural networks
Assessment method	Task execution
Workshop	
Course Content: Topics and Scope of Classes	30 hours
Course Content: Topics and Scope of Classes	Data Processing and Analysis Performing practical tasks using methods discussed in earlier courses in the areas of: data acquisition, collection, and processing, conducting statistical analysis and modelling, using information technologies and available software.
Assessment method	Task execution
Workshop	
Course Content: Topics and Scope of Classes	30 hours
Course Content: Topics and Scope of Classes	Specialized Statistical Workshops Specificity of statistical analysis in a given discipline: Formulating hypotheses and designing experiments; Overview of the most commonly used statistical tools; Methods of data presentation
Assessment method	Task execution

Compulsory Module: Doctoral seminar

ECTS	2	Total number of hours	24
Semester	2; 4; 6; 8	including: lectures	-
		seminars	24
		workshops	-
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDS_W1	The current state of knowledge in the pursued scientific discipline	P8S_WG
SDS_W2	The most important and current research problems in various scientific disciplines	P8S_WG
SDS_W3	Civilizational dilemmas and developmental trends in research methods across different scientific disciplines	P8S_WK
SKILLS – is able to:		
SDS_U1	Formulate and justify the research problems undertaken	P8S_UW
SDS_U2	Use up-to-date knowledge in the given research discipline to justify the research problem and interpret results	P8S_UW
SDS_U3	Communicate on specialist topics, initiate debate, and participate in scientific discourse	P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDS_K1	Critical evaluation of one's own academic output and that of other researchers	P8S_KK
SDS_K2	Using up-to-date scientific knowledge to solve important environmental, social, and economic problems	P8S_KO

Content:

Seminar part 1		12	hours
Course Content:	<u>Current challenges of science</u>		
Topics and Scope of Classes	Current research challenges in the individual disciplines represented by the doctoral students; Preparation and delivery of a presentation on the state of knowledge and current challenges in the thematic area undertaken by the doctoral student		
Assessment method	Power point presentation		
Seminar part 2		12	hours
Course Content:	<u>Evaluation of scientific progress</u>		
Topics and Scope of Classes	Reporting current progress in scientific work at the end of each academic year during the general seminar of the doctoral school		
Assessment method	Power point presentation		

Compulsory Module: Higher Education Pedagogy

ECTS	2	Total number of hours	24
Semester	3; 4	including: lectures	4
		seminars	-
		workshops	20
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDP_W1	Principles and methods of teaching in higher education necessary for conducting academic classes	P8S_WG
SDP_W2	Principles of knowledge transfer in university teaching, including the use of distance-learning methods	P8S_WK
SKILLS – is able to:		
SDP_U1	Use knowledge from various fields of science to plan and conduct academic classes	P8S_UW P8S_UK
SDP_U2	Prepare and deliver teaching courses using information technology tools	P8S_UU P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDP_K1	Fulfilling social obligations in the education of managerial staff based on the latest scientific achievements	P8S_KO

Contents:

Lectures		4	hours
Course Content:	Teaching methods in higher education didactics		
Topics and Scope of Classes	Types of methods used in higher education didactics: lecture, seminar, talk, discussion and tribunal method, exercise and demonstration methods, educational game methods, situational method and brainstorming, project method		
Assessment method	Lesson plan draft		
Workshop		4	hours
Course Content:	Communication in Science and Higher Education – How to Speak So That We Are Heard?		
Topics and Scope of Classes	Presentations and speeches using visual aids; Motivating audiences to listen; Conducting conversations; Chairing and participating in scientific discussions; Effectively conducting classes with learners		
Assessment method	Assessment of class participation and activity		
Workshop		16	hours
	e-education		

Course
Content: Methodology of remote teaching; Forms of presentation in remote education;
Topics and Technical capabilities for conducting group training and educational software;
Scope of Structure of an e-learning course
Classes

Assessment method	Project of the e-learning course

Doctoral School

Compulsory module: Intellectual Property Law

ECTS	1	Total number of hours	8
Semester	5	including: lectures	4
		seminars	-
		workshops	4
		exercises	-
		Total self-work	

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDJ_W1	Legal, ethical, and economic conditions for conducting scientific activity and disseminating its results	P8S_WK
SDJ_W2	Principles of commercializing the results of research and innovation activities	P8S_WK
SKILLS – is able to:		
SDJ_U1	Transfer research results to the economic and social sectors in compliance with legal principles	P8S_UW
SOCIAL COMPETENCES – is ready to:		
SDJ_K1	Act for the benefit of an innovative economy and society	P8S_KO

Contents:

Lectures	4	hours

Course	Copyright Law
Content:	
Topics and	Sources of law, subject matter of law, scope and principles of protection, principles
Scope of	of fair use of protected works
Classes	

Assessment method	Assessment of the activity during lectures

Warsztaty	4	hours

Course	<u>Industrial Property Law</u>
Content:	
Topics and	Inventions, utility models, industrial designs, trademarks, designations,
Scope of	semiconductor topographies, rationalization projects
Classes	

Assessment method	Final project / Project for course credit

Compulsory Module: Scientific English

ECTS	4 6	Total number of hours	80
Semester	1; 2; 6	including: lectures	-
		seminars	-
		workshops	50
		exercises	30
		Total self-work	

Lerning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDE_W1	Useful phrases and grammatical structures in a foreign language necessary for conducting scientific activity	P8S_WG
SDE_W2	Principles of preparing documentation and presentations in a foreign language	P8S_WG
SKILLS – is able to:		
SDE_U1	Communicate in a foreign language in a way that enables participation in scientific discourse	P8S_UK
SDE_U2	Prepare scientific articles and documentation in a foreign language using appropriate terminology	P8S_UK
SOCIAL COMPETENCES – is ready to:		
SDE_K1	Continuous learning and improving language competences	P8S_KK

Contents:

Exercises		30	hours
Course	Specificity of Scientific English		
Content:			
Topics and			
Scope of	Useful phrases and grammatical structures		
Classes			
Assessment method	Written credit		
Workshop		50	hours
Course	Scientific English in Practice		
Content:	Preparing a professional CV; Writing and publishing a popular science article;		
Topics and	Preparing an application for an international research internship; Preparing and		
Scope of	publishing a short academic biography in English on the institution's website;		
Classes	Preparing for presentations at international scientific conferences; Chairing		
	conferences and discussion panels in English		
Assessment method	Project for course credit		

Compulsory Module: Joint Dissertation Colloquium

ECTS	5	Total number of hours	96
Semester	2; 3; 4	including: lectures	-
		seminars	96
		workshops	-
		exercises	-
		Total self-work	29

Learning outcomes:

Code	Description of the learning outcome	Reference to PRK
Knowledge – knows and understands:		
SDS_W1	The current state of knowledge in the pursued scientific discipline	P8S_WG
SDS_W2	The most important and current research problems across various scientific disciplines	P8S_WG
SDS_W2	Civilizational dilemmas and developmental trends in research methods across various scientific disciplines	P8S_WG
SKILLS – is able to:		
SDS_U1	Formulate and justify the research problems undertaken	P8S_UK
SDS_U2	Use up-to-date knowledge from the given research discipline to justify the research problem and interpret the results	P8S_UK
SDS_U3	Communicate on specialist topics, initiate debate, and participate in scientific discourse	P8S_UK P8S_UO
SOCIAL COMPETENCES – is ready to:		
SDS_K1	Critical evaluation of one's own academic output and that of other researchers	P8S_KK
SDS_K2	Using up-to-date scientific knowledge to solve important environmental, social, and economic problems	P8S_KO P8S_KR

Contents

Seminar part 1		32	hours
Course Content:	<u>Current challenges of science</u>		
Topics and Scope of Classes	Current research challenges in the individual disciplines represented by the doctoral students; Preparation and delivery of a presentation on the state of knowledge and current challenges in the thematic area undertaken by the doctoral student		
Assessment method	Task execution		
Seminar part 2 and 3		64	hours
Course Content:	<u>Presentation of the results obtained by the doctoral students and their critical analysis</u>		
Topics and Scope of Classes	Presentation of the research results obtained by the students in the year preceding the presentation. These results will be evaluated by a professional audience composed of supervisors, guests, and other students. The essence of the seminar is a professional discussion on the student's engagement, the results obtained, and the		

possibilities of their use, including practical applications and the publication of scientific articles. Through participation in the seminar, students will also become familiar with the research conducted by other doctoral candidates, which stimulates joint activities and the preparation of interdisciplinary projects and other initiatives. The colloquium will provide students with a deeper understanding of horticultural sciences

Assessment method	Task execution

**The Rules of the evaluation of scientific care
of the Doctoral School of the University of Agriculture in Krakow**

§ 1

1. Scientific care is evaluated in parallel with the mid-term evaluation of PhD students and is made in accordance to Article 202 s.2 of the Act of 20 July 2018 – Law of Higher Education.
2. Evaluation of scientific care is made on the base of the report of the evaluation of scientific care - the form of which is specified in appendix 1 of the Rules, as well as the talks of the Committee members with the supervisor and the PhD student (§ 2 s.1).
3. The report of the evaluation is submitted to the office of the Doctoral School by the end of the first week of October of every year in which the mid-term evaluation of the PhD student is conducted.
4. The interview with the supervisor can be held online.
5. The evaluation of scientific care finishes with a positive or negative result. The result of the evaluation is public.

§ 2

1. The evaluation of scientific care is held by 3 person Committee for evaluation of scientific care, which is sets up by the appropriate discipline council. The Committee is consisted of the employees of the University of Agriculture in Krakow. There should be 2 persons participating in the mid-term evaluation Committee. The council of the discipline sets up the Committee by 1 month since receiving the application from the Director of the Doctoral School.
2. The Committee suggests the date of the interview with the supervisor.
3. The Committee draws up the protocol of the evaluation of scientific care, the form of which is in appendix 2 of the Rules.
4. In case of the negative assessment of the evaluation of scientific care while positive mid-term evaluation of IPB of the PhD student, the appropriate discipline council should change the supervisor and the Director of the Doctoral School applies for it. The discipline council sets up the Committee by 1 month since receiving the application from the Director.
5. The members of the Committee present the Director of the Doctoral School the final assessment by three days since the last meeting. The Director presents the final assessment to the supervisor, coordinator and council of discipline. The supervisor signs the protocol of evaluation of scientific care.

§ 3

1. In justified cases the Director of the Doctoral School may change the dates indicated in the Rules.
2. The Director of the Doctoral School decides about the scope of activities of the Committee that have not been included in the Rules.

In line with the original

DYREKTOR
SZKOŁY DOKTORSKIEJ
[Signature]
prof. dr hab. Zygmunt M. Kowalski



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Appendix no. 1
to the Rules for the evaluation of scientific care

REPORT OF EVALUATION OF SCIENTIFIC CARE

Krakow, date

Part A

NAME AND SURNAME OF THE SUPERVISOR

NAME AND SURNAME OF THE PhD STUDENT

DATE OF BEGINNING OF EDUCATION AT THE DOCTORAL SCHOOL

DISCIPLINE

DEPARTMENT

ASSISTANT SUPERVISOR



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Part B (filled by the supervisor) * *please circle the appropriate answer*

I. I assess the availability of the PhD student as*:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>

II. I assess the performance of duties by the PhD student as*:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>

signature of supervisor



Part C (filled by PhD student) * please circle the appropriate answer

I. I assess the availability of the supervisor as *:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
II. I assess the supervisor's help in the preparation of IPB as:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
III. I assess the supervisor's help in the implementation of IPB as:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
IV. I assess the supervisor's help in my research to date as:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
V. The supervisor's consultations help me in the current research in a way:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
VI. Having previous experience in training as a part of a doctoral study what you would change?				
- nothing				
- supervisor				
- subject of individual research plan (IPB)				
- scope of work in certain periods				
- others (write below)				
.....				
.....				
.....				
.....				

signature of PhD student



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Appendix no. 2
to the Rules for the evaluation of scientific care

EVALUATION OF SCIENTIFIC CARE PROTOCOL

Krakow, date

NAME AND SURNAME OF THE SUPERVISOR

NAME AND SURNAME OF THE PhD STUDENT

DATE OF BEGINNING OF EDUCATION AT THE DOCTORAL SCHOOL

DISCIPLINE

DEPARTMENT

ASSISTANT SUPERVISOR

TITLE OF PhD DISSERTATION



Head of the Committee

Secretary of the Committee

Member of the Committee

* delete unnecessary

[illegible]



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

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Committee of evaluation of scientific care composed of:

Head of the Committee

Secretary of the Committee

Member of the Committee

I acknowledge the above assessment:

Signature of supervisor

**The Rules of the mid-term evaluation of PhD students
of the Doctoral School of the University of Agriculture in Krakow**

§ 1

1. According to the Article 202 s.2 of the Act of 20 July 2018 – Law of Higher Education and Science, the completion of an individual research plan (IPB) is subjected to a mid-term evaluation in the middle of the study period specified in the education program, i.e. after completing term 4.
2. The mid-term evaluation has to be carried out within 3 consecutive months.
3. The mid-term evaluation of the PhD student is conducted considering:
 - 1) a submitted report on the implementation of the IPB, the form of which is included in the appendix no.1 of the rules (stage I);
 - 2) an interview with the PhD student (stage II).
4. The report of on the implementation of IPB written in Polish or English, signed by the PhD student and supervisor, is submitted to the office of the Doctoral School by the end of the first week of October of the year in which the mid-term evaluation takes place.
5. The interview with the PhD student is conducted in Polish or English and can be conducted online.
6. The copy of the IPB should be attached to the IPB report as well as the documents confirming the PhD student's activity resulting from IPB, including the first pages of scientific publications published during the Doctoral School education, decisions to award a grant, the confirmation of the leader of the research project, the patent application number, the confirmation of taking part in a conference including the type of performance and the title of the presented work.
7. The mid-term evaluation is completed by a negative or positive score. The score and its justification are publicly transparent.

§ 2

1. Mid-term evaluation is conducted by the Mid-Term Committee appointed by the right council of the discipline upon the request of the Director of the Doctoral School. The council of the discipline appoints the Mid-Term Committee in one month since receiving the application.

2. The Committee consists of 3 members with the degree of habilitated doctor or professor at the discipline in which the doctoral thesis is prepared, including one employed outside of the University.
3. Members of the Committee should be active researchers, which means that during previous 6 years they have published at least 4 scientific publications (articles in journals, conference materials, books as part of book series) included in the Scopus base, at least two of them had to be published in the journal in the discipline according to the ministerial list and had to score at least 30 points according to the MNiSW list, when published by 2018 or 100 points according to the list of the MEiN, when published after 2018. In the case of economy and finances these thresholds are 25 or 70 points, respectively.
4. One of the members of the Committee can be a researcher from abroad. The participation of that person in the work of the Committee is only online.
5. A supervisor and assistant supervisor cannot be the members of the Committee.
6. The council of the discipline chooses the chairman, the secretary and the member of the Committee. In justified cases the Director of the Doctoral School applies to the council of discipline for dismissal of a Committee member and for choosing another member on her/his place.
7. A member of the Committee, employed outside of the University is offered a salary of 20% of the professor's salary. The costs are paid from the scientific subsidy transferred to the right discipline.
8. The chairman of the Committee convenes the meeting by setting the dates and places of meetings. All the necessary information is forwarded to the secretariat of the Doctoral School which gives the PhD student and the supervisor the information about the dates and places of committee appointments.
9. The mid-term evaluation report is assessed for up to 30 days since being given to the members of the Committee.
10. The Committee suggests the date of the interview with the PhD student.
11. The presence of the PhD student at the meeting of the Committee for interview is obligatory. The excuse of the absence can be a sick leave presented on the assessment day (or in particular cases within 7 days at the latest since the date of the committee meeting) or an important random event. In that case the PhD student is given a new date of interview. Unexcused absence will lead to a negative score of the mid-term evaluation.
12. During the interview the PhD student presents in the 20 minute presentation the implementation status of IPB. Every member of the Committee asks the PhD student one

- question regarding the content of the presentation or the implementation of IPB. The questions are documented and the protocol form is included in the appendix no.2 of the rules.
13. After completing both stages of the assessment (I and II) the Committee agrees the final result (score) of the mid-term evaluation of the PhD student, making a protocol (appendix 2). Committee presents the result of the evaluation as positive or negative. The result of the mid-term evaluation is positive if most members of the Committee give the positive assessment.
14. To receive a positive mid-term evaluation, the following conditions have to be fulfilled:
- 1) PhD student has completed the tasks given to be implemented in the IPB by the end of the 4th term of education.
 - 2) PhD student shows a delay in the IPB implementation but not over 30%, however, there is a possibility of the IPB implementation within the time specified in the rules of the Doctoral School and the previous research and publication activity of the PhD student clearly indicate her/his right involvement in the implementation of the research tasks.
15. The negative mid-term evaluation is given when the committee states no progress in the IPB implementation.
16. Both positive and negative assessments have to be justified.
17. The Committee deliberates over the result of the evaluation in the closed (secret) part of the meeting.
18. The negative result of the mid-term evaluation is tantamount to removal from the list of doctoral students.
19. The members of the Committee provide the Director of the Doctoral School with the final evaluation within 3 days since the last meeting. The Director of the Doctoral School presents the final grade to the doctoral student and the supervisor, who sign the evaluation protocol, and also presents it to the coordinator and the discipline council.
20. The PhD student can appeal against a negative mid-term evaluation to the Director of the Doctoral School within 7 days from the date of making the results of the evaluation available.
21. At the request of the Director of the Doctoral School the Rector appoints three-person Appeals Committee with at least 2 persons not employed in the University including at least 1 person with the title of habilitated doctor or professor in the research discipline of the doctoral thesis.
22. After checking all the documents the Appeals Committee conducts an interview with the PhD student in order to make the final decision. The decision has to be made not later than

1 month after the date of the appeal of the PhD student. The Appeal Committee decision is final.

§ 3

1. In justified cases the Director of the Doctoral School may change by the message the dates indicated in these rules.
2. The Director of the Doctoral School decides on the scope of the Committee's activity, which are not included in these rules.

In line with the original

DYREKTOR
SZKOŁY DOKTORSKIEJ
[Signature]
prof. dr hab. Zygmunt M. Kowalski



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Appendix no. 1
to the Rules of Doctoral School

REPORT OF MID-TERM EVALUATION

Krakow, date.....

Part A

NAME AND SURNAME
DATE OF BEGINNING OF EDUCATION AT THE DOCTORAL SCHOOL
DISCIPLINE
DEPARTMENT
SUPERVISOR
ASSISTANT SUPERVISOR
TITLE OF PHD DISSERTATION
HYPOTHESES AND SCIENTIFICS AIMS



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

JUSTIFICATION FOR THE SELECTION OF THE RESEARCH PROBLEM

QUICK OVERVIEW OF THE CONCEPT OF THE DISSERTATION (*limit 200 words*)



PART B

RESEARCH TASKS

No.	Name of the research task to be carried out in the assessed period	Short description

RESEARCH METHODS

No.	Name of the research task to be carried out in the assessed period	Short description of research methodology

SCHEDULE FOR THE IMPLEMENTATION OF THE RESEARCH TASKS

No.	Name of the research task to be carried out in the assessed period	Start the task		Duration (months)	End before (1) or after a mid-term evaluation (2)
		Year of study	Term		

DESCRIPTION OF WORK PROGRESS OR RESULTS ACHIEVED (*limit 250 words*)



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

LIST OF LITERATURE: (*maximum 20 items*)



PART C

COMPLETED RESEARCH INTERNSHIPS

- domestic
- foreign

LIST OF SCIENTIFIC PUBLICATIONS PUBLISHED DURING the evaluation period (with bibliographic data)*

Publication	Bibliographic data
Author/co-author of the article published in the journal included in the list	
Author/co-author of the monography published by the publishing house in the list	
Author/co-author of the cases study published in the journal included in the list	
Author/co-author of the original article published in the journal not included in the list	
Author/co-author of the monography published by the publishing house not included in the list	

* the first pages of papers published during the education at the doctoral school should be attached to the report

LIST OF ACTIVE PARTICIPATION IN THE CONFERENCE*

Status	Conference details	Title and author	oral/poster



International conference (author/co-author of the oral presentation)			
International conference (author/co-author of the poster)			
National conference (author/co-author of the oral presentation)			
National conference (author/co-author of the poster)			

* attach a document confirming your participation

ACQUIRING FINANCIAL FUNDS FOR RESEARCH
 - management/ contractor of the external research grant funded by NCN, NCBiR, FNP, Ministerial grants
(please provide the number, title and duration of the project)

- financed from the funds allocated to the implementation of research of PhD Students of the Doctoral School of University of Agriculture in Krakow (Rector's order No. 147/2020)

OBTAINING OR APPLICATION FOR A PATENT *(number of patent or application)*

Supervisor's opinion (*evaluation of progress in research*)



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Signature of Supervisor

OPINION OF THE HEAD OF DOCTORAL SCHOOL

Signature of Head of Doctoral School



MID-TERM EVALUATION OF THE PhD STUDENT PROTOCOL

Krakow, date

NAME AND SURNAME

DATE OF BEGINNING OF EDUCATION AT THE DOCTORAL SCHOOL

DISCIPLINE

DEPARTMENT

SUPERVISOR

ASSISTANT SUPERVISOR

TITLE OF PhD DISSERTATION



Mr/Mrs on (date)

Proceeded to the mid-term assessment at the Doctoral School in the discipline:

..... in the presence of
the Committee composed of:

Head of the Committee

Secretary of the Committee

Member of the Committee

Questions contained in the presentation and implementation of IPB (3 questions)

1.
2.
3.

I. Assessment of the IPB implementation status:

a) evaluation of the implementation of the work schedule included in IPB:

*positive/negative**

b) evaluation of the prepared and delivered presentation: *positive/negative**;

c) assessment of the responses to the questions of the Mid-Term Evaluation Committee:
*positive/negative**;

FINAL ASSESSMENT: *positive/negative**

II. Assessment of the research activity of the PhD student

The result of the research activity of the PhD Student: *positive/negative**

FINAL ASSESSMENT: *positive/negative**

** delete when unnecessary*

Summary:



Justification and conclusion of the Committee:

Head of the Committee

Secretary of the Committee

Member of the Committee



I acknowledge the above assessment:

Signature of PhD student

Signature of supervisor/supervisors

Regulations for evaluating progress of the doctoral students in their Individual Research Plans and the status of their doctoral dissertation preparation

1. In accordance with §37 of the Doctoral School of University of Agriculture in Krakow, following the mid-term evaluation, the implementation of the Individual Research Plan (hereinafter referred to as the IRP) and the progress of the doctoral dissertation are assessed.
2. The assessment takes place three times; in spring (semester 6), in February (semester 7), and in June (semester 8).
3. The assessment of a PhD student's progress is based on a submitted report presenting progress in implementing the IRP and the status of the doctoral dissertation's preparation, hereinafter referred to as 'the report'. The Report template is set out in Annex No. 1 to these regulations. The report should be reviewed by the supervisor or supervisors of the doctoral dissertation.
4. The report, prepared in Polish or English and signed by the PhD student and the supervisor or supervisors, must be submitted to the office of the Doctoral School by the end of the month preceding the assessment date specified in point 2.
5. The assessment of the progress in implementing of the IRP and the status of the doctoral dissertation's preparation is conducted by the Committee for the IRP.
6. The report must be accompanied by documentation from the mid-term evaluation (the PhD student's report and evaluation protocol), copies of the IRP, the report from the last evaluation, and documents confirming the PhD student's activity resulting from the IRP, including: the first pages of works published since the previous evaluation, institution decisions on granting a grant, confirmation from the research project manager, confirmation of grant application submission, a patent application number, confirmation of conference, including the type of presentation and the title of the presented work, and documentation of the completion of a domestic or international research internship.

7. The report is evaluated by the Commission. The Chairman of the Commission convenes meetings, determining their dates and locations.
8. A positive assessment is granted under the following conditions :
 - 1) the PhD student has completed the tasks specified in the IRP by the end of the relevant semester.
 - 2) the PhD student has delays in implementing the IRP, but their scientific and publishing activity clearly demonstrate commitment to carrying out research tasks.
9. The Commission determines the final result by preparing a protocol, the template of which is attached as Annex 2 to these regulations. The Commission reports the assessment results as either positive or negative. The evaluation is considered positive if the majority of Commission members vote in favor of a positive opinion.
10. A negative evaluation may serve as the basis for initiating proceedings to remove the PhD student from the list of enrolled students.
11. The Chairman of the Commission presents the final evaluation to the Director of the Doctoral School within 7 days of the last meeting. The Director then presents the final grade to the PhD student and the supervisor or supervisors. The evaluation report is submitted to the relevant discipline council.
12. The PhD student has the right to appeal the assessment result within 30 days of receiving the evaluation.
13. At the request of the Director of the Doctoral School, the Rector appoints a three-person Appeal Committee. The Appeal Committee must make a decision no later than 1 month from the date of submission of the appeal by the PhD student. The decision of the Appeal Committee is final.



to the Regulations for assessing progress in the implementation of doctoral students' individual research plans
and the status of doctoral dissertation preparation

**PROTOCOL FOR ASSESSING THE PROGRESS IN
IMPLEMENTING THE INDIVIDUAL RESEARCH
PLAN OF THE DOCTORAL STUDENT AND THE
STATUS OF PREPARATION OF THE DOCTORAL
DISSERTATION**

Krakow, date

NAME AND SURNAME OF THE DOCTORAL STUDENT

START DATE OF DOCTORAL SCHOOL EDUCATION

DISCYPLINAE

DEPARTMENT

PROMOTOR LUB PROMOTORZY

ASSISTANT SUPERVISOR

TITLE OF PHD DISSERTATION



Mr/Mrs on the day
.....

started to assess the progress in the implementation of the doctoral student's individual research plan and the state of preparation of the doctoral dissertation at the Doctoral School in the discipline:..... before the Commission composed of:

Chairman of the Commission

Members of the Commission

.....

.....

.....

I. Assessment of the implementation status of the individual research plan

a) assessment of the implementation of the work schedule included in the individual research plan: positive/negative*;

II. Assessment of the state of preparation of the doctoral dissertation

Result of the assessment of the state of preparation of the doctoral dissertation: positive/negative;

Result of the assessment of the state of preparation of the doctoral dissertation:
positive/negative*

** delete what is unnecessary*



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SIGNATURE OF THE PROMOTER/PROMOTERS

Name and surname: Marcin Rapacz
Academic title/degree: Professor, Doctor of Science Field: agricultural sciences (PhD)/biological sciences (professor) Discipline: agronomy (PhD)/biology (prof.) Year of obtaining the title/degree: 2003/2009
<i>List of classes and hours taught in the assessed field</i> 1) seminar: current challenges in science (Polish and English) – 6 hours per year for each variant 2) disciplinary seminar for agriculture and horticulture and biological sciences (English, 30 hours per year in total, combined for the first and second and third and fourth years of study)
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> The scientific achievements fall within the field of agricultural sciences, in the discipline of agriculture and horticulture, and within the field of exact and natural sciences, in the discipline of biological sciences and biotechnology. They include research into the mechanisms of plant adaptation to abiotic stress, particularly frost and drought. He has managed numerous national (NCN, NCBR) and international projects, and has participated as an expert and reviewer of national and EU grants. His achievements include over 120 publications in JCR-listed journals. H=30, over 3,000 citations without self-citations, for several years on the list of the Top 2% most influential scientists in the whole career category.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Kopeć P., Rapacz M. , Arora R. (2024) . Redox regulation of the Calvin–Benson Bassham cycle during cold acclimation. Trends in Plant Science, 29(7), 721–723. https://doi.org/10.1016/j.tplants.2024.01.007 . 2) Kopeć P., Rapacz M. , Arora R. (2022) . Post-translational activation of CBF for inducing freezing-tolerance. Trends in Plant Science, 27(5), 415–417. https://doi.org/10.1016/j.tplants.2022.01.003 . 3) Rapacz M. , Macko-Podgórní A., Jurczyk B., Kuchar L. (2022) . Modelling wheat and triticale winter hardiness... Agricultural and Forest Meteorology, 313, 108739. https://doi.org/10.1016/j.agrformet.2021.108739 . 4) Wójcik-Jagła M., Rapacz M. (2023) . Freezing tolerance and tolerance to de-acclimation of European accessions of winter and facultative barley. Scientific Reports, 13, 19931. https://doi.org/10.1038/s41598-023-47318-y . 5) Jurczyk B., Dziurka M., Janowiak F., Pocięcha E., Grzesiak M., Rapacz M. (2024) . Waterlogging-Induced Changes in ABA, Carbohydrates and CBF6 Modify Freezing Tolerance in Prehardened Festuca pratensis. Journal of Agronomy and Crop Science, 210, e12740. https://doi.org/10.1111/jac.12740 .

- 6) **Rapacz M.**, Szewczyk-Taranek B., Bani I., Marcinkowski P. **(2024)**. The fitness of pelargonium cuttings affects the relationship between the photochemical activity of the photosynthetic apparatus and rooting ability. *Scientific Reports*, 14, 19716. <https://doi.org/10.1038/s41598-024-70790-z>.
- 7) **Rapacz M.**, Jurczyk B., Bani I., Wójcik-Jagła M. **(2025)**. Phenotyping the effects of simulated spring frost on the yield of barley and wheat. *Journal of Agronomy and Crop Science*, 211, e70054. <https://doi.org/10.1111/jac.70054>.
- 8) Ahmar S., Shafique S., **Rapacz M.**, Pociecha E. **(2025)**. Elucidating the role of brassinosteroid signalling genes. *BMC Plant Biology*, 25, 970. <https://doi.org/10.1186/s12870-025-06960-6>.
- 9) FENG project (2025–2029): Safe and healthy bakery and confectionery products for people with gluten intolerance, made from hypoallergenic wheat flour with a modified composition of allergenic gluten proteins. European Funds for a Modern Economy, No. FENG.01.01-IP.01-A0YH/25; role: R&D manager.
- 10) Patent: Method for selecting frost-resistant and winter-hardy genotypes of winter triticale, No. P.419780 (2019), Patent Office of the Republic of Poland.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

He has many years of teaching experience in plant physiology, biochemistry and biotechnology. He is the author and co-author of academic textbooks and educational programmes in English. He teaches Polish and foreign students and conducts doctoral seminars in Norway and the United Kingdom. He has supervised doctoral students and students who have won awards in scientific competitions. He has been awarded the Medal of the National Education Commission for his teaching achievements. He has supervised seven completed doctoral theses, including one in Norway, and 54 master's theses and 23 engineering theses.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1) Teaching in English: "Plant Physiology and Biochemistry" – since 2014/2015 (course launch).
- 2) Teaching in English: "Molecular background of crop production" – since 2010/2011 (course launch).
- 3) Co-author of the textbook "Exercises in Biochemistry" (University of Agriculture in Krakow) – 2013.
- 4) Co-author of the script "Exercises in plant physiology with the basics of biochemistry" – 6th edition, 2007 (previous editions 1998, 2001).
- 5) Medal of the National Education Commission – 2009.
- 6) Second place in the "Top Doctor" poll (best lecturer, WRE AR Kraków) – 2006.
- 7) Supervisor of the "Helisa" Biotechnology Research Club – 2007–2013.
- 8) Coordinator of the Socrates–Erasmus programme (Biotechnology, interdepartmental studies) – 2005–2014.

- 9) Seminars for doctoral students and young scientists – Norwegian University of Life Sciences (NMBU, Ås, Norway) – 2007, 2009, 2013.
- 10) Seminars for doctoral students – Aberystwyth University (Institute of Biological, Environmental and Rural Sciences, United Kingdom) – 2003.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

He has extensive experience in scientific work, expert and business activities. He has reviewed 20 doctoral dissertations and chaired over 30 doctoral committees. He has reviewed approximately 275 research projects, including 105 foreign/H2020 and HE projects. He was an expert supervising the implementation of 9 H2020 and HE projects. He has reviewed over 350 scientific publications in IF journals. He has experience in technology transfer, including running a limited liability company, and was also employed as a consultant in a horticultural company.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Member of the Committee on Agronomic Sciences of the Polish Academy of Sciences (since 2020)

Member of the Committee on Biotechnology of the Polish Academy of Sciences (since 2024)

Chair of the Scientific Council of the Institute of Food and Nutrition, Polish Academy of Sciences (since 2020)

Member of the Scientific Council of IHAR-PIB (2021-2025)

Chair of the Supervisory Board of CTT URK (since 2014)

Chair of the Council for Agriculture and Horticulture at URK (2018–2024)

Vice-Rector for Science at URK (since 2024)

Imię i nazwisko: Agnieszka Synowiec
Academic title/degree: Associate Professor Field: agricultural sciences Discipline: agriculture and horticulture Year of obtaining the title/degree: 2017
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>A description of scientific achievements, indicating the scientific fields/disciplines in which my work falls (up to 600 characters), including grant acquisition and project management.</i> My scientific achievements fall within the discipline of agriculture and horticulture and focus on several key, interconnected research areas: 1) Weed Resistance to Herbicides: This research primarily concerns the biology, ecology, and competitiveness of resistant biotypes in crop plants, with particular emphasis on monocotyledonous weeds such as wild oat (<i>Avena fatua</i>) and wheat broom (<i>Apera spica-venti</i>). 2) Allelopathic Interactions and Biopesticides: Analysis of allelopathy phenomena in agroecosystems and the use of biologically active compounds of plant origin (especially terpenes contained in essential oils) in non-chemical weed control. 3) Invasive Plant Management: Developing non-chemical control methods and assessing the harmfulness and impact of invasive plants on anthropogenic and natural ecosystems. 4) Agroecological Weed Control Methods: Research and implementation of sustainable agroecological strategies aimed at optimizing crop rotations and managing weed populations. Within these areas, I have implemented the following teaching and research projects: 1. 02/10/2017-28/09/2018 Workshops on long-term agricultural effects on soils as the natural resources of sustainability. Visegrad Grant. Project number: 21720051. Leader: University of Debrecen (Research Institute of Nyíregyháza), Hungary. 2. 01/06/2017–31/05/2020 Strategy for counteracting weed resistance to herbicides as an important factor in ensuring sustainable development of agroecosystems; acronym: BioHerOd*. Project financed by the National Centre for Research and Development under the 3rd strategic call for proposals of the "Natural Environment, Agriculture and Forestry" Program – BIOSTRATEG. Contract number: 3/347445/1/NCBR/2017. National grant. Leader: Institute of Plant Protection-National Research Institute in Poznań. 3. 06/2021–04/2024 Integrated approach to protecting ecosystems from invasive alien plants in southern Poland – IAS/EcoSystemCARE. The project was implemented under the "Environment, Energy and Climate Change" Operational Program, financed by the EEA FM 2014-2021 and the state budget. International grant. Leader: University of Silesia in Katowice. 4. June 2023-June 2027 AGROSUS: Agroecological strategies for sustainable weed management in key European crops. Project financed by the

European Union, Horizon Europe. Grant number: 101084084. International grant. Leader: University of Vigo, Spain.

5. From 2021, partner of the international network CEEPUS RS-1607: Resilient management of bioactive compounds from plants and organic wastes in Central and Eastern Europe. Leader: University of Novi Sad, Serbia

List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)

- 1) Jop B., et al. Competitiveness indicators of herbicide silky bentgrass (*Apera spica-venti* L.) of different susceptibility to herbicides toward winter wheat. *Journal of Plant Protection Research*, 2025, 65(3): 386-399.
- 2) Synowiec A., et al. Herbicides in Use: Current Status and Perspectives in the Different Biogeographic Regions of Europe. *Journal of Agricultural and Food Chemistry*, 2025, 73.36: 22089-22109.
- 3) Boutagayout A., et al. Agroecological practices for sustainable weed management in Mediterranean farming landscapes. *Environment, Development and Sustainability*, 2025, 27.4: 8209-8263.
- 4) Słowiński K., et al. Control and Disposal of Invasive Japanese Knotweed *Reynoutria japonica* Houtt. Using Microwave Treatment. *Journal of Visualized Experiments (JoVE)*, 2024, 213: e67660.
- 5) Kozić K., et al. Performance in the recruitment life stage and its potential contribution to invasive success in the polyploid invader *Centaurea stoebe*. *NeoBiota*, 2024, 95: 309-329.
- 6) Słowiński K., et al. Biochemistry of microwave controlled *Heracleum sosnowskyi* (Manden.) roots with an ecotoxicological aspect. *Scientific Reports*, 2024, 14.1: 14260.
- 7) Rys M., et al. The effect of caraway oil-loaded bio-nanoemulsions on the growth and performance of barnyard grass and maize. *Scientific Reports*, 2024, 14.1: 4313.
- 8) Dacko M., et al. Plant-architectural and environmental predictors of seed mass of winter oilseed rape in southern Poland based on the CART trees regression model. *Industrial Crops and Products*, 2023, 192: 116109.
- 9) Necajeva J., et al. Phenological development of barnyard grass plants originating from different geographical locations. *Agronomy Journal*, 2022, 114.6: 3407-3419.
- 10) Synowiec A., et al. Environmental factors effects on winter wheat competition with herbicide-resistant or susceptible silky bentgrass (*Apera spica-venti* L.) in Poland. *Agronomy*, 2021, 11.5: 871.

Description of teaching experience and achievements (up to 600 characters).

Competencies in scientific or artistic supervision

I am an academic teacher with 25 years of experience. I coordinate courses taught in Agriculture (Agroecology and Environmental Protection, Pesticide Resistance), Environmental Protection (Ecology, Phytochemicals and Microorganisms for Biotechnology, Biological Contaminants), and for ERASMUS students (Agroecology and Environmental Protection, Farming Systems, Organic Farming, Alternative Sources of Energy). I have enhanced my teaching experience during internships, including international ones, completed, among others, at:

1. The University of Coimbra, Portugal (20/11/2024-20/12/2024)
2. The University of South Bohemia, Czech Republic (ERASMUS+, 2011),
3. The University of Life Sciences in Prague, Czech Republic (ERASMUS+, 2016)
4. 2013-2014 "Strengthening the Teaching Potential of the University of Agriculture in Krakow" (UDA-POKL.04.03.00-00-165/12-00) co-financed by the EU under the European Social Fund Human Capital

I supervised the doctoral dissertation of Dr. Eng. Beata Jop (defense in 2023) and served as an associate supervisor for the doctoral dissertation of Dr. Eng. Dorota Gali-Czekaj (defense in 2019). I am currently supervising a second-year PhD student at the Doctoral School, Grace Azeez.

A list of at most 10 of the most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g., authorship of textbooks, teaching materials, implemented teaching innovations/awards received by students supervised by the teacher/conducting classes in a foreign language, including those related to researcher mobility, supervision of a science club, other

- 1) Organic farming R.5sa.ORF.SI.RROEZ
- 2) Farming systems R.3sa.FSY.SI.RROEZ
- 3) Agroecology and Environmental Protection R.3sa.AEP.SI.RROEZ
- 4) Alternative sources of energy R.5sa.ASE.SI.RROEZ
- 5) Plant protection R.4sa.PLP.SI.RROEZ
- 6) Bączek-Kwinta R. et al. 2024. Protection of ecosystems against invasive alien plant species in southern Poland - good practices and new challenges. Ed. Context, pp. 286. – monograph.

Description of professional experience in relation to the educational objectives, learning outcomes for the area being assessed, and program content (up to 600 characters)

I systematically develop my professional competencies through participation in international programs and internships at renowned institutions. In 2018-2019, I was a Marie Curie Research Fellow, completing a year-long research internship at the University of Orléans (France). Participating in monthly international, interdisciplinary scientific meetings with experienced researchers significantly enriched my research and teaching skills, enabling me to exchange ideas across various fields.

In 2009-2010, I served as a Visiting Lecturer at the Department of Land and Food Systems at the University of British Columbia in Canada. This experience permanently broadened my horizons, allowing me to learn about a different teaching system and the methodology of conducting dissertations and doctoral theses. Moreover, I actively enhance my qualifications by participating in teaching internships (e.g., as part of the ERASMUS+ program), regularly following the latest scientific literature in my field, and maintaining an active scientific profile on ResearchGate, which facilitates ongoing cooperation and knowledge exchange with the scientific community.

Improving qualifications and competencies, both in terms of my own scientific or artistic development, as well as in the scientific or artistic supervision of doctoral students, and through promotional and organizational activities (up to 600 characters)

My scientific qualifications and competencies are continually improved through active participation in key scientific societies and networks, as well as intensive research

collaborations. I am an active member of the European Weed Research Society (EWRS), where I serve on the "Germination and Early Weed Growth" working group, and I have been a member of the Polish Agronomic Society since 2001. I actively collaborate on scientific research, forming interdisciplinary teams with partners from the Cracow University of Technology, Lodz University of Technology, and the Institute of Plant Physiology of the Polish Academy of Sciences. I regularly present the results of my research at major national and international conferences, including: the 20th European Weed Research Society Symposium (July 1–4, 2025, Lleida); 11th Scientific Conference of the Polish Agronomic Society (September 17–19, 2025, Puławy); 14th International Symposium: Past, Present, Future (Kopački Rit, Croatia).

Furthermore, I am investing in the development of my professional competences by participating in specialized training in statistics and research methodology, including the university project "Improving Teaching Competencies at the University of Agriculture in Krakow" (2024–2026) and international COST Action networks: CA21134 (Towards zero Pesticide AGRiculture: European Network for Sustainability) and CA23107 (Network for Evidence Synthesis in the Agri-Food Sector).

Since 2017, as part of my science promotion activities, I have regularly organized scientific workshops during the Małopolska Researchers' Night. I also participated in the 2024 Open Days of the Faculty of Agriculture and Economics. At my faculty, I served on the Faculty Promotion Committee during the 2019-2024 term.

Name and surname: Agnieszka Klimek-Kopyra
Academic title/degree: prof. dr hab. inż. Field: agricultural sciences Discipline: agriculture and horticulture Year of obtaining the title/degree: 2025
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Scientific activity focused on environmental factors limiting plant productivity and agrobiological and/or biophysical practices and methods aimed at strengthening the production potential of crops, with particular emphasis on legumes, oilseeds, and cereals. The research carried out is in line with the issue of sustainable agricultural development based on long-term EU strategies to strengthen the potential of legumes and increase the biodiversity of arable land. Her scientific output includes 161 publications, including 135 original creative works. The total number of points confirmed by bibliometric evaluation is 6 629. The total IF of the works is 198.034; the Hirsch index is 15.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1. Patent-1, Method for producing a titanium (IV) oxide-enriched suspension, titanium (IV) oxide-enriched suspension, and use of titanium (IV) oxide-enriched suspension in plant cultivation Klimek-Kopyra Agnieszka, Wiśła-Świder Anna, Invention, Protected, Application number (in the first country of application above): 445941, Patent/right number: 247209, Application date (in the first country of application above): 08-30-2023, Date of grant: 03-19-2025, Publication of patent/design: [WUP 05-26-2025] 2. Patent-2, Method for producing a zinc oxide-enriched suspension, zinc oxide-enriched suspension, and use of zinc oxide-enriched suspension in plant cultivation Wiśła-Świder Anna, Klimek-Kopyra Agnieszka, Invention, Protected, Application number (in the first country of application above): 445942, Patent/right number: 247210, Application date (in the first country of application above): 08-30-2023, Date of grant: 03-19-2025, Publication of patent/design: [WUP 05-26-2025] 3. Patent- 3, DEVICE AND METHOD FOR PERFORMING PRE-SOWING LASER STIMULATION OF SEEDS Klimek-Kopyra Agnieszka, Przybyszewski Piotr, Czech Tomasz, Kulig Bogdan, Invention, Protected, Application number (in the first country of application above): 20183005.6, Patent/right number: 3756437, Application date (in the first country of application above): 29-06-2020, Date of granting of the right: 26-11-2021, Publication of the patent/design: [EPO 29-12-2021] 4. Patent-4, Device for performing pre-sowing laser stimulation of seeds and method for performing pre-sowing laser stimulation of seeds Klimek-Kopyra Agnieszka, Przybyszewski Piotr, Kulig Bogdan, Czech Tomasz,

Invention, Protected, Application number (in the first country of application above): 430467, Patent/right number: 239605, Application date (in the first country of application above): 29-06-2019, Date of granting: 15-10-2021, Publication of patent/design: [WUP 20-12-2021]

5. Research commissioned (2022-2024) entitled "Evaluation of the effectiveness of BIOSTYMA's SALIX preparation containing salicylic acid in protecting winter barley against pathogens", registered under number 4147. Project manager.

6. Commissioned research (2021-2023) entitled "The impact of selected fertilizer and biological products from BIOSTYMA on the health and yield of winter wheat," registered under number 4143. Project manager

7. Commissioned research (2023) entitled "Assessment of the economic value of bacterial vaccines for soybeans" for the Polish Soybean Association, registered under number 4151. Project manager.

8. Nendel C., Reckling M., Debaeke P., Schulz S., Berg-Mohnicke M., Constantin J., Fronzek S., Hoffmann M., Jakšić S., **Klimek-Kopyra A.**: Future area expansion outweighs increasing drought risk for soybean in Europe, Global Change Biology, vol. 29, nr 5, **2023**, s. 1340-1358, DOI:10.1111/gcb.16562,

9. **Klimek-Kopyra A.**, Baciór M., Lorenc-Kozik A., Neugschwandtner R., Zając T.: Intraspecific competition as a driver for true production potential of soybean, Italian Journal of Agronomy, vol. 16, nr 1, **2021**, s. 1-11, DOI:10.4081/ija.2020.1709, IF(1,632)

10. Rebilas K., **Klimek-Kopyra A.**, Baciór M., Zając T. **2020**. A model for the yield losses estimation in an early soybean (*Glycine max* (L.) Merr.) cultivar depending on the cutting height at harvest. Field Crops Research 254: 107846.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Co-supervisor of 1 doctoral dissertation at the University of Agriculture in Krakow in the field of agricultural sciences, discipline: agriculture and horticulture (Anna Ślizowska, MA, doctoral defense: October 16, 2023).

Co-supervisor of 1 doctoral dissertation at the University of Life Science and Natural Resources (BOKU), Vienna, Austria, in the field of agricultural sciences (Lukas J. Koppensteiner, MSc, in progress).

Supervisor of 1 doctoral dissertation at the University of Agriculture in Krakow in the field of agricultural sciences, discipline of agriculture and horticulture (Adrian Sikora, MSc, PhD defense on November 4, 2025).

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1) Teaching classes in a foreign language: Regenerative Agriculture, Sustainable Crop Production, Herbal Plants

2) Co-authoring a textbook: Gorczyca, A., Klimek-Kopyra, A., Kiełbasa, B., Pink, M.,

Redlichová, R., Wieczorek-Przybyło, M., Piecuch, K., Pereira, F., Raposo, A., Saude, S., Durão, A., Chaves, H., Barbosa, E., Rodrigues, A.I., Santamarta, J.C., Cruz-Pérez, N., Rodríguez-Alcántara, J.S., (2024). Agile Teaching Methodology. Tenerife. Universidad de La Laguna, doi: <https://doi.org/10.25145/b.2023.1>

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

My professional experience allows me to focus on the practical application of predictive models. By analyzing many years of empirical data obtained from field experiments, I successfully apply statistical methods and mathematical algorithms to identify key factors affecting the productivity of crops. Completed research projects have led to significant optimization of commodity crop production, which is proof of my professional experience in the field of agriculture.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

2005 – completed postgraduate studies at Agro-Unia, obtaining the title of European Funds Specialist.

2010 – completed postgraduate pedagogical studies for academic teachers at the Pedagogical University of Krakow.

2013 – completed postgraduate studies for research staff in “Professional Research and Development Project Management.”

2010-2018 – completed numerous courses and training programs (including at Wageningen University & Research and the University of Natural Resources and Applied Life Sciences) in modeling and image analysis.

2025 – completed a course in statistics.

Name and surname: Dariusz Grzebelus
Academic title/degree: prof. dr hab. inż. Field: Agricultura Sciences Discipline: Agriculture and Horticulture Year of obtaining the title/degree: 2014
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> My scientific achievements are in the field of agricultural sciences, specifically in the discipline of agriculture and horticulture. My main research interests concern the genetics and genomics of cultivated plants, including analyses of the carrot genome structure and changes in the domestication process, including rearrangements associated with the activity of mobile genetic elements, as well as their impact on economically important traits, including tolerance to abiotic stresses (carrot and potato). I have also conducted work related to the identification of the molecular basis of sugar beet resistance to rhizomania and the development of markers for the Rz1 and Rz2 genes that determine resistance to this disease, and I am currently identifying markers for the monogerm trait.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Article: Bahjat N. M., Yıldız M., Nadeem M.A., Morales A., Wohlfeiler J., Baloch F.S., Tunçtürk M., Koçak M., Chung Y.S., Grzebelus D. , Sadik G., Kuzğun C, Cavagnaro P.F. 2025 . Population structure, genetic diversity, and GWAS analyses with GBS-derived SNPs and silicoDArT markers unveil genetic potential for breeding and candidate genes for agronomic and root quality traits in an international sugar beet germplasm collection. BMC Plant Biol. 25:523 2) Article: Macko-Podgórní A., Plich J., Smyda-Dajmund P., Sottys-Kalina D., Grzebelus D. , Marczewski W. 2025 . Drought stress priming affects tuber yield and DNA methylation status in vegetatively propagated potato (<i>Solanum tuberosum</i> L.) plants. J. Agronomy Crop Sci. 211:e70059 3) Article: Hadagali S., Stelmach-Wityk K., Macko-Podgórní A., Cholin S., Grzebelus D. 2025 . Polymorphic insertions of DcSto miniature inverted-repeat transposable elements reveal genetic diversity structure within the cultivated carrot. J. Appl. Genet. 66:293-303 4) Article: Coe K., Bostan H., Rolling W., Turner-Hissong S., Macko-Podgórní A., Senalik D. Liu S., Seth R., Curaba J., Fentie Mengist M., Grzebelus D. , Van Deynze A.,

Dawson J., Ellison S., Simon P., Iorizzo M. **2023**. Population genomics identifies genetic signatures of carrot domestication and improvement and uncovers the origin of high-carotenoid orange carrots. *Nature Plants* 9: 1643-1658.

5) Article: Soltys-Kalina D., Macko-Podgórní A., Plich J., Boguszevska-Mańkowska D., Szajko K., Smyda-Dajmund P., **Grzebelus D.**, Marczewski W. **2023**. The Retinoblastoma-related gene RBL901 can trigger drought response actions in potato. *Plant Cell Rep.* 42: 1701-1704.

6) Article: Kwolek K., Kędzierska P., Hankiewicz M., Mirouze M., Panaud O., **Grzebelus D.**, Macko-Podgórní A. **2022**. Diverse and mobile: eccDNA-based identification of carrot low-copy LTR retrotransposons active in callus cultures. *Plant J.* 110: 1811-1828.

7) Article: Stelmach K., Macko-Podgórní A., Allender C., **Grzebelus D.** **2021**. Genetic diversity structure of western-type carrots. *BMC Plant Biol.* 21: 200.

8) Article: Macko-Podgórní A., Stelmach K., Kwolek K., Machaj G., Ellison S., Senalik D.A., Simon P.W., **Grzebelus D.** **2020**. Mining for Candidate Genes Controlling Secondary Growth of the Carrot Storage Root. *Int. J. Mol. Sci.* 21: 4263.

9) Project NCN PRELUDIUM BIS-4 no. 2022/47/O/NZ9/00290 "The impact of miniature inverted-repeat transposable elements (MITEs) on the chromatin organization in carrot (*Daucus carota* L.)." years 2023-2027; principal investigator

10) Award of the Minister of Agriculture and Rural Development for outstanding achievements in introducing biological progress in agriculture, 2021

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I have been teaching since 1996. Currently, I teach genetics, genomics, and plant breeding to Polish and foreign students (in the Environmental and Plant Biotechnology and International Master in Horticultural Science programs). I have supervised dozens of master's and engineering theses, promoted six doctoral students, and am currently supervising three doctoral students. For over a dozen years, I have been coordinating the work of the Plant Genomics section as part of the Helisa biotechnology research club. I share my knowledge of crop genetics and genomics at seminars presented at the invitation of Polish and foreign scientific institutions.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1) 2014/2019 - Coordinator of the International Master of Horticultural Science program at the University of Agriculture in Krakow in cooperation with Mendel University in Brno (Czech Republic) and the University of Agriculture in Nitra (Slovakia)
- 2) Editor of the monograph: P.W. Simon, M. Iorizzo, D. Grzebelus, R. Barański (eds.) 2019. The Carrot Genome. Compendium of Plant Genomes. C. Cole (series ed.), Springer Nature Switzerland
- 3) Development of courses: Plant Genetics and Genomics and Plant Genomics, as well as participation in the development of courses: Conventional and Molecular Plant Breeding and Crop Improvement in the part concerning molecular breeding
- 4) Reviewed 21 doctoral dissertations at Polish universities and institutes and one foreign dissertation (University of Perpignan, France), including 14 in the last five years
- 5) Classes with students at the Agrotechnical University in Astana (Kazakhstan); short-term visit as part of the ERASMUS program [2017]
- 6) Award from the Krakow branch of the Polish Genetic Society for student Marcelina Skrabucha for her master's thesis, which I supervised, 2023
- 7) Włodków Scholarship for student Piotr Martyka, who is writing his master's thesis under my supervision, 2024
- 8) Award from the Minister of Agriculture and Rural Development in recognition of outstanding achievements in implementing scientific research results into agricultural practice, bringing measurable economic and social benefits to the team of authors consisting of: Prof. Dariusz Grzebelus, Gabriela Machaj, M.Sc. (Ph.D. student), Katarzyna Stelmach, M.Sc. (Ph.D. student), Dr. Alicja Macko-Podgórn; title of achievement: Development of molecular markers to support the breeding of sugar beet varieties resistant to rhizomania; applicant: Kutnowska Hodowla Buraka Cukrowego Sp. z o.o. in Straszaków
- 9) seminars and lectures by invitation, including the University of Perpignan, France (2017), Warsaw University of Life Sciences (2018), Institute of Plant Breeding and Acclimatization -PIB Radzików (2019), Polish Academy of Arts and Sciences (2025)

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

For over 20 years, I have been involved in carrot genomics research, including the development of the first BAC genomic library; characterization of the first transcriptome; assembly of the mitochondrial genome; development of SNP and DArT genotyping platforms and their use to describe the history of carrot domestication; and assembly of a high-quality reference genome sequence. My research interests focus on mobile genetic elements and their significance for plant genomes. I have also studied

issues related to the biodiversity of wild and cultivated carrot populations, with a particular focus on the genetic determinants of domestication-related traits.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Research internships and visits in the United Kingdom (1992), the Netherlands (1993), the USA (1998, 2001-2002, 2004, 2010-2011), Germany (2005), and Australia (2010)

Chairing scientific committees at international conferences: 2nd ISHS Symposium "Carrot and other Apiaceae," Krakow 2018; Polish Genetics Congress, Plant Genetics section, Krakow 2022

Five doctorates at URK, one as co-supervisor at the University of Warsaw

Reviews of 22 doctoral theses

Name and surname: Tomasz Wójtowicz
Academic title/degree dr inż. Field: agronomy Discipline: agricultural, forestry, and veterinary sciences Year of obtaining the title/degree: 2003
<i>List of classes and hours taught in the assessed field</i> Statistical workshop (in English) – 15 hrs
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Achievements in the field of agriculture and horticulture include: - the issue of seed shattering in meadow fescue, including the search for genotypes with higher resistance to shattering, - assessment of the possibility of using rye stalks for the production of drinking straws (significant varietal differences in terms of the mechanical strength of internodes were demonstrated), - research on the development of silky bentgrass and winter wheat under competitive conditions. In 2008-2013, I obtained funding for the project “Study of factors determining the seed productivity of meadow fescue, with particular emphasis on seed shattering,” commissioned by the Ministry of Agriculture and Rural Development, carried out in cooperation with Małopolska Hodowla Roślin, which I managed in 2011-2013.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Jop Beata, Wójtowicz Tomasz, Marczevska-Kolasa Katarzyna, Kucharski Mariusz, Synowiec Agnieszka: Emergence and Phenological Development of Herbicide-Sensitive and Herbicide-Resistant Biotypes of Apera Spica-Venti and Winter Wheat under Competition, Agriculture (Switzerland), Multidisciplinary Digital Publishing Institute (MDPI), 14(6), 945, 2024, 1-13, DOI:10.3390/agriculture14060945, 100 points 2) Olczyk Marta, Koschier Elisabeth H., Wójtowicz Tomasz, Pobożniak Maria: The Preference of Thrips tabaci for Allium cepa, Allium fistulosum, and Allium roylei, Agriculture-Basel, Multidisciplinary Digital Publishing Institute (MDPI), 13(10), 2023, 1-11, DOI:10.3390/agriculture13101862, 140 points 3) Simlat Magdalena, Ptak Agata, Wójtowicz Tomasz, Szewczyk Agnieszka: The Content of Phenolic Compounds in Stevia rebaudiana (Bertoni) Plants Derived from Melatonin and NaCl Treated Seeds, Plants-Basel, Multidisciplinary Digital Publishing Institute (MDPI), 12 (4), 2023, 1-14, DOI:10.3390/plants12040780, 70 points 4) Joachimiak Andrzej J., Libik-Konieczny Marta, Wójtowicz Tomasz, Śliwińska Elwira, Grabowska-Joachimiak Aleksandra: Physiological aspects of sex differences and Haldane’s rule in Rumex hastatulus, Scientific Reports, Nature

Publishing Group, 12(1), 11145, **2022**, 1-15, DOI:10.1038/s41598-022-15219-1, 140 points

- 5) Pobożniak Maria, Olczyk Marta, **Wójtowicz Tomasz**, Kamińska Iwona, Hanus-Fajerska Ewa, Kostecka-Gugala Anna, Kruczek Michał: Anatomical and Biochemical Traits Associated with Field Resistance of Onion Cultivars to Onion Thrips and the Effect of Mechanical Injury on the Level of Biochemical Compounds in Onion Leaves, Agronomy, MDPI AG, 12(1), **2022**, 1-26, DOI:10.3390/agronomy12010147, 100 points
- 6) Pobożniak Maria, Olczyk Marta, **Wójtowicz Tomasz**: Relationship between Colonization by Onion Thrips (Thrips tabaci Lind.) and Leaf Colour Measures across Eight Onion Cultivars (Allium cepa L.), Agronomy, MDPI AG, 11(5), 963, **2021**, 1-15, DOI:10.3390/agronomy11050963, 100 points
- 7) Pobożniak Maria, Gaborska Małgorzata, **Wójtowicz Tomasz**: Resistance and tolerance of ten carrot cultivars to the hawthorn-carrot aphid, Dysaphis crataegi Kalt., in Poland, PLoS ONE, 16(3), **2021**, e0247978, DOI:10.1371/journal.pone.0247978, 100 points
- 8) **Wójtowicz Tomasz**, Zieliński Andrzej: Variability of Selected Traits in Meadow Fescue (Festuca pratensis Huds.) Plants with Different Susceptibility to Seed Shattering †, Biology and Life Sciences Forum, Multidisciplinary Digital Publishing Institute (MDPI), 3(1), **2021**, 1-6, DOI:10.3390/IECAG2021-09910, 5 points
- 9) Wójtowicz Tomasz, Grabowska-Joachimik Aleksandra, Zieliński Andrzej: Analysis of morpho-anatomical stem properties determining its mechanical strength in selected rye cultivars, International Agrophysics, 1(34), 2020, 123-131, DOI:10.31545/intagr/115096, 100 points

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I have over 20 years of experience in teaching. I coordinate or co-coordinate and teach courses in agricultural research methodology and agricultural experimentation, as well as plant breeding and seed science. I have supervised 28 master's theses and 15 engineering theses. I am the author of the program and the sole lecturer of the facultative course "Fundamentals of Programming" for economics programmes.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1) active participation in the preparation of documentation for the new Agrobiology programme at the Faculty of Agriculture and Economics – 2024,
- 2) development of the syllabus for the course Fundamentals of Agricultural Experimentation for the agrobiology programme – 2024,
- 3) co-development of the programme for the course Seed Production and Seed Trade for the Agrobiology programme - 2024,

4) developing content on seed production and experimental methodology for the course Crop Improvement and Experimental Design for the Agriculture programme and, in 2021-2024, teaching the course in English, comprising 15 hours of lectures and 20 hours of practical classes,

5) co-developing and teaching the course Statistical workshop (15 hours) in English in 2022-2025 for the Doctoral School in disciplines including agriculture and horticulture, biological sciences, animal husbandry and fisheries.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

During my professional career at the University I specialised in statistical experimental design and data analysis. I am invited as an expert by teams working on the publication of their research results in various scientific disciplines. I also provide consultations on experimentation and data analysis for university staff, students and doctoral students. I conduct my experiments in field conditions that require knowledge and special care in their setup and subsequent analysis of results.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

2014, two-semester postgraduate studies in 'System Design and Operation', AGH University of Science and Technology

2022, training course 'Adapting teaching materials to the needs of people with disabilities', University of Agriculture in Krakow

2023, training course 'Moderation analysis in IBM SPSS Statistics (PS IMAGO PRO) using Andrew F. Hayes' PROCESS macro', Tygiel Foundation

2025, webinar 'Python in scientific data analysis and processing', Tygiel Foundation

2025, webinar, 'A modern approach to data analysis: artificial intelligence and big data in practice', Tygiel Foundation

Name and surname: Aneta Kopeć
Academic title/degree: professor Field: nutrition and food science Discipline: agriculture Year of obtaining the title/degree: 2021
<i>List of classes and hours taught in the assessed field</i>
PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> My research interests are in two areas: the health-promoting properties of food and the assessment of the diet and nutritional status of various population groups. My research activities are primarily funded by the National Science Centre (NCN) and also European Union funding. Currently I am Principal investigator of the project funded by NCN entitled "Sardines and sprats as the potential source of nutrients required for supporting proper function of immune system in in vitro and in vivo models" project no nr UMO-2020/39/I/NZ9/02959.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Binduga UE, Kopeć A, Skoczylas J, Szychowski KA. 2025. Comparison of the Cytotoxic Mechanisms of Different Garlic (<i>Allium sativum</i> L.) Cultivars with the Crucial Involvement of Peroxisome Proliferator-Activated Receptor Gamma. <i>International Journal of Molecular Sciences</i>. 4;26(1):387 2) Skoczylas, J., Piątkowska, E., Lampova, B., Doskočil, I., Šmíd, P., Kouřimská, L., Smoleń, S., Pitala, J., Leszczyńska, T. and Kopeć, A., 2024. Different thermal treatments affect the nutritional value and antioxidant activity of sardines and sprats. <i>Journal of Food Composition and Analysis</i>, 134, p.106519. 3) Adebimpe Ojo, C., Dziadek, K., Sadowska, U., Skoczylas, J., & Kopeć, A. 2024. Analytical Assessment of the Antioxidant Properties of the Coneflower (<i>Echinacea purpurea</i> L. Moench) Grown with Various Mulch Materials. <i>Molecules</i>, 29(5), 971 4) Waśniowska, J., Leszczyńska, T., Kopeć, A., Piątkowska, E., Smoleń, S., Krzemińska, J., Kowalska, I., Słupski, J., Piasna-Słupecka, E., Krawczyk, K. and Koronowicz, A. 2023. Curly Kale (<i>Brassica oleracea</i> var. <i>Sabellica</i> L.) Biofortified with 5, 7-Diiodo-8-quinolinol: The Influence of Heat Treatment on Iodine Level, Macronutrient Composition and Antioxidant Content. <i>Nutrients</i>, 15(22), 4730. 5) Skoczylas, J., Jędrszczyk, E., Dziadek, K., Dacewicz, E., Kopeć, A. 2023. Basic Chemical Composition, Antioxidant Activity and Selected Polyphenolic Compounds Profile in Garlic Leaves and Bulbs Collected at Various Stages of Development. <i>Molecules</i>, 28(18), 6653. 6) Dziadek, M., Dziadek, K., Checinska, K., Salagierski, S., Choinska, E., Szatkowski, P., Wajda, A., Kopeć, A. and Cholewa-Kowalska, K., 2023. Polyphenolic compounds affect

the long-term degradation behaviour of polymer and composite materials based on PCL, PLGA, and bioactive glass. Sustainable Materials and Technologies, 35, p.e00568.

7) Lampova B., Daskocil I., Kourimska L., **Kopeć A., 2022.** N-3 polyunsaturated fatty acids may affect the course of COVID-19. Frontiers in immunology DOI 10.3389/fimmu.2022.957518

8) Dziadek M., Dziadek K., Salagierski Sz., Drozdowska M., Serafim A., Stancu I.K., Szatkowski P., **Kopeć A.,** Rajzer I., Douglas T.E.L., Cholewa-Kowalska K. **2022.** Newly crosslinked chitosan- and chitosan-pectin-based hydrogels with high antioxidant and potential anticancer activity. Carbohydrate Polymers, 290, 119486doi.org/10.1016/j.carbpol.2022.119486

9) Dziadek K., **Kopeć A.,** Dziadek M., Sadowska U., Cholewa-Kowalska K. **2022.** The changes in bioactive compounds and antioxidant activity of Chia (*Salvia hispanica* L.) herb under storage and different drying conditions: A comparison with other species of sage. Molecules, DOI:10.3390/molecules 27051569

10) Dziadek M., Dziadek K., Salagierski Sz., Drozdowska M., Serafim A., Stancu IC, Szatkowski P., **Kopeć A.,** Rajzer I., Douglas T.L.E, Cholewa-Kowalska K., **2022** Newly crosslinked chitosan- and chitosan-pectin-based hydrogels with high antioxidant and potential anticancer activity. Carbohydrate polymers, 290, 1-12, DOI:10.1016/j.carbpol.2022.119486

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

As part of my teaching activities, I participated in the development of: the framework program for full-time undergraduate studies for the Food Technology and Human Nutrition program, and the framework program for full-time undergraduate studies for the Dietetics program. I independently prepared syllabi for numerous subjects, including: Fundamentals of Dietetics, Pediatric Dietetics, Athletes' Nutrition, Advanced Dietetics for LLP-Erasmus/Erasmus+ students, Global Politics in Human Nutrition, and Methods in Research. My achievements in educating young academic staff include four doctoral theses, completed in 2020, 2022, and 2023 (two defenses). I have co-authored chapters in academic textbooks.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1.Kopeć A., Zawistowski J., **2025** Diet, Bioactive Compounds, and Functional Foods in Weight Management in Body recomposition. A comprehensive metabolic alternative to weight loss. Ed. Chakraborty S., Bagchi D., Chakraborty T.A.,Downs B.W., Blum K., wyd CRC Press Taylor &Francis Group Boca Raton London, New York 530-544. DOI: 10.1201/9781003361473;

2. Zawistowski J., **Kopeć A., 2021.** Effect of functional food ingredients on nutrient absorption and digestion. W: Nutrition and functional foods in boosting digestion,

metabolism and immune health. Ed. Bagchi D., Ohia S.E., Wyd Academic Press, str 173-192; ISBN: 978-0-12-821232-5

3. Yegin S. **Kopeć A.**, Kitts D. D. Zawistowski J. **2020**. Dietary fiber: a functional food ingredient with physiological benefits” w: Dietary Sugar, Salt and Fat in Human Health / Preuss Harry G., Bagchi Debasis (red.), Elsevier Academic press, ISBN 978-0-12-816918-6, 531-555, [DOI:10.1016/B978-0-12-816918-6.00024-X](https://doi.org/10.1016/B978-0-12-816918-6.00024-X)

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

My professional experience is closely related to the discipline of food technology and human nutrition and aligns closely with the educational objectives and learning outcomes of the doctoral program. My research, which examines the health effects of foods containing functional ingredients, is closely linked to this discipline. I am currently supervising a doctoral thesis on the immunomodulatory properties of sardines and sprat. My research focuses on fish quality and its impact on the immunological processes occurring in experimental rats.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Participation in training conferences and courses for dietitians: e.g., Clinical Dietetics, Contemporary Dietetics on the Complications of Obesity. I also actively participate in international scientific conferences, such as the 23rd International Congress of Nutrition (IUNS-ICN) in Paris and the 17th International Conference and Exhibition on Nutraceuticals and Functional Foods in Ho Chi Minh City, Vietnam.

Name and surname: Magdalena Franczyk-Żarów
Academic title/degree: Associate Professor Field: Agricultural sciences nutrition and food science Discipline: agriculture Food Technology and Nutrition (100%) Year of obtaining the title/degree: 2019
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects</i> Research interests and achievements focus on the health-promoting properties of food, bioactive ingredients that affect the body, including conjugated fatty acids and various forms of vitamin K. Research achievements include work on the assessment of health-promoting properties in animal models and the impact of nutritional factors on the development of atherosclerotic lesions in a mouse model (ApoE/LDLR ^{-/-}). Work is interdisciplinary, straddling the fields of food technology, nutrition and health sciences. My scientific activity is focused on participating in research teams carrying out projects financed through national and international competitions. I have participated (as a Principal Investigator or contractor) in 13 research projects, including one funded by the POIG framework programme, one funded by the EU, six funded by the Ministry of Science and Higher Education, three funded by a special-purpose grant or the Rector's own scholarship fund on a competitive basis, and twice in an educational and research grant.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1. Kieronska-Rudek A, Kij A, Bar A, Sternak M, Paterek A, Rolski F, Czyzyska-Cichon I, Fedak F, Kostogrys R, Franczyk-Żarów M . Rapid Replenishment of Phylloquinone in the Plasma and Liver Using Hyaluronan-Based Nanocapsules Reverses Endothelial Dysfunction in Mice. Nanotechnology, Science and Applications, Dove Medical Press Ltd., vol. 18, 2025 , s. 245-262, DOI:10.2147/nsa.s520030. 200 pkt. 2. Kij A, Kieronska-Rudek A, Bar A, Czyzyska-Cichon I, Strus M, Kozieln L, Wiecek G, Zeber-Lubecka N, Kulecka M, Kwiatkowski G, Przyborowski K, Mohaissen T, Sternak M, Buczek E, Zakrzewska A, Proniewski B, Kus K, Franczyk-Zarow M , Kostogrys RB, Pieterman EJ, Princen HMG, Chlopicki S. Low phylloquinone intake deteriorates endothelial function in normolipidemic and dyslipidaemic mice. J Nutr Biochem. 2025 Feb 18;140:109867. doi: 10.1016/j.jnutbio.2025.109867. IF 4.8; 100 pkt.

3. Kostogrys R, **Franczyk-Żarów M**, Gurgul A, Jasielczuk I, Żaczek A, Hubalewska-Mazgaj M, Lichotai S, Manterys A, Wybrańska Iwona. Negative Impact of Caloric Restriction on Atherosclerosis in Young ApoE/LDLr^{-/-} Mice. Cellular Physiology and Biochemistry, vol. 59, **2025**, s. 297-312, DOI:10.33594/000000775. 140 pkt.

4. Łukasiewicz M, Dymińska-Czyż M, Szymczyk B, **Franczyk-Żarów M**, Kostogrys R, Florkiewicz A, Ptaszek P, Zięć G, Filipiak-Florkiewicz A. From Hen Nutrition to Baking: Effects of Pomegranate Seed and Linseed Oils on Egg White Foam Stability and Sponge Cake Quality. Foods, Molecular Diversity Preservation International (MDPI), vol. 14, nr 8, **2025**, s. 1-18, DOI:10.3390/foods14081417. 100 pkt.

5. Alcicek F C, Dybas J, Bulat K, Mohaissen T, Szczesny-Malysiak E, **Franczyk-Żarów M**, Marzec K M. Hypoxia induces robust ATP release from erythrocytes in ApoE-LDLR double-deficient mice. Frontiers in Physiology, FRONTIERS MEDIA SA, vol. 15, **2024**, 1497346, s. 1-9, DOI:10.3389/fphys.2024.1497346, 100 pkt.

6. Hassen H, Škvorová P, Pokhrel K, Kulma M, Piątkowska E, Kostogrys RB, Kouřimská L, Tarko T, **Franczyk-Żarów M**. Effect of Diets with the Addition of Edible Insects on the Development of Atherosclerotic Lesions in ApoE/LDLR^{+/+} Mice. International Journal of Molecular Sciences, **2024**, 25(13), 7256. doi: 10.3390/ijms25137256. IF 4.9; 140 PKT

7. Filipiak-Florkiewicz A., Dymińska-Czyż M., Szymczyk B., **Franczyk-Żarów M.**, Kostogrys R., Florkiewicz A., Łukasiewicz M. Design of Physicochemical Properties of Eggs as a Result of Modification of the Fat Fraction of Laying Feed. Molecules **2024**, 29, 1242. <https://doi.org/10.3390/molecules29061242>. IF 4.2; 140 PKT

8. Franczyk-Żarów M., Tarko T., Drahun-Misztal A., Czyzyska-Cichon I., Kus E. and Kostogrys R.B. Pomegranate Seed Oil as a Source of Conjugated Linolenic Acid (CLnA) Has No Effect on Atherosclerosis Development but Improves Lipid Profile and Affects the Expression of Lipid Metabolism Genes in apoE/LDLR^{-/-} Mice. Int J Mol Sci. **2023** Jan 15;24(2):1737. doi: 10.3390/ijms24021737. (IF 4.9; 140 pkt.)

9. Patent No. 222877 for the invention entitled 'Feed for poultry.' Co-creator of the invention. The patent was approved on 28 February 2013.

10. Currently, project manager and principal investigator of research project No. 2020/37/B/NZ9/03835 (OPUS, funded by the National Science Centre) entitled 'Anti-inflammatory potential of products that are sources of vitamin K2 in the progression of atherosclerosis'. Implementation in 2021-2026, PLN 730,800; in progress.

I have been awarded the Rector's Award of the University of Agriculture in Krakow four times for outstanding scientific achievements (2007, 2013, 2016, 2017).

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

My teaching responsibilities include preparing and conducting lectures and classes on the subjects of 'Unconventional Food', 'Organic, Traditional and Regional Food', 'Food for Special Medical Purpose', 'Human Nutrition and Fundamentals of Physiology' and

practical classes in the subjects 'Basics of Human Nutrition' and 'Human Physiology' at the first and second cycle, full-time and part-time studies. In addition, I am the coordinator and lecturer of the course 'Basics of Human Nutrition' in English for Erasmus+ students. As part of this programme, I have participated in scientific and teaching exchanges in Spain (2013, 2022, 2025) and Portugal (2019, 2024). I am the Dean's Representative for Student Internships for the Dietetics programme and a member of the Dietetics Programme Council. As Chair, I participate in engineering examinations and master's thesis defences. I have supervised 74 theses (including 43 master's theses and 31 engineering theses). Reviewer of 74 theses. Member of the Committee during 87 thesis defences. I was an assistant supervisor for two doctoral theses, a supervisor for one, and a reviewer for six. Currently, I am supervising an English-speaking doctoral student.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1) Editor and co-author of the Academic book entitled Human Nutrition. An Academic Practical Textbook, edited by Teresa Leszczyńska and Magdalena Franczyk-Żarów, published by the University of Agriculture in Krakow, Krakow 2023.

2) Development of programmes, teaching aids, teaching and coordination of classes in numerous subjects, including: Unconventional Food, Food for Special Medical Purpose, Basics of Human Nutrition I, Basics of Human Nutrition II, Human Nutrition and Fundamentals of Physiology. Coordinating and conducting classes in English on the subject of 'Basics of Human Nutrition' for exchange students under the Erasmus+ programme

3) Preparing presentations/materials on the subjects of 'Basics of Human Nutrition' and 'Plant-based diets' in English for remote classes as part of the Erasmus+ strategic partnership project 'Innovation of the structure and content of study programmes profiling food study fields with a view to digitising teaching – FOODINOVO', 2021-2022.

4) First prize in the Franciszek Nowotny SITSpoż competition for the supervisor of the best Master's Thesis entitled 'The effect of pomegranate seed oil as a source of conjugated punicic acid trienes on the development of atherosclerotic changes in genetically modified ApoE/LDLr^{-/-} mice' by Anna Drahun, MSc, 12 December 2011.

5) Scientific and teaching exchange (Erasmus+) in Spain (2013, 2022, 2025) and Portugal (2019, 2024).

6) Dean's representative for student internships (2020-present).

7) Participation in Science Festivals, UR Open Days, the 'Taste UR' Fair (2017), Krakow Integration Days (2019), Senior Fair (2017) and classes for children at the Children's University (2016, 2018) and as part of Erasmus+ (2017, 2023).

8) Implementer of the nationwide educational and research project 'ABC of Healthy Eating' (2016, 2017).

9) Chair of the Małopolska Regional Committee of the Nutrition Knowledge Competition (Main Committee of the Nutrition Knowledge Competition, ul. Gen. J. Sowińskiego 3, 70-236 Szczecin) since 2023.

10) Medal of the National Education Commission – Krakow, 2023

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Contributor to eight research projects, Principal investigator of five, co-author of a PATENT, four-time recipient of the Rector's Award (2007-2017), scholarship from the Rector's own scholarship fund (2013). Active participation in organizational work: Secretary of OM SIT Spoż. NOT (2002-2006), honorary badge of the SIT Spoż. Association No. 3761 (2006), Member of the Faculty Council of TŻ (2012-2016), Promotion and Information Committee, Faculty College and Council of the Food Technology and Nutrition Discipline (2020-2024), member of the Dietetics programme council (2020-present) and Dean's representative for student internships (2020-present). Academic reviewer at the Central Examination Board in Warsaw in 2020-2022. Awarded the Bronze Medal for Long Service (2019) and the Medal of the National Education Commission (2023).

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Pedagogical Studies for Assistants, Krakow University of Technology, Centre for Pedagogy and Psychology 2008/2009, 200 hours, and obtaining pedagogical preparation for work at a university.

Statistics course entitled 'The use of statistics and Statistica in planning empirical research and analysing its results in the natural sciences - methods of variance analysis and regression analysis' as part of the project: 'Integrated Programme of the H. Kołłątaj University of Agriculture in Krakow', (24 hours) 6-8 November 2019.

English language course (level C1) as part of the project 'Integrated Programme of the H. Kołłątaj University of Agriculture in Krakow', November 2019 – January 2020.

English language course as part of the project 'Integrated Programme of the H. Kołłątaj University of Agriculture in Krakow' 05.2020 – 05.2021

English language course as part of the project Career Direction WUP in Krakow 11.2021-03.2022

English language course as part of the project 'Improving the qualifications and competences of teaching staff and doctoral students in order to strengthen the quality of teaching at the University of Agriculture in Krakow' 04.2025-03.2026

Statistics course entitled 'The use of the Statistica package in the teaching process' as part of the project: 'Improving the qualifications and competences of teaching staff and doctoral students in order to enhance the quality of teaching at the University of Agriculture in Krakow' 28-29 October 2025.

Name and surname: Paweł Ptaszek
Academic title/degree: PhD, Eng., Prof. URK Field: nutrition and food science Discipline: agriculture Year of obtaining the title/degree: doctorate: 2005, food technology and nutrition; habilitation degree: 2015 chemical engineering; professional title: 1998, chemical engineering; academic title: 2019 professor URK
<i>List of classes and hours taught in the assessed field</i> SPECJALISTYCZNE WARSZTATY STATYSTYCZNE_TژیĆwiczenia 1.30
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> My scientific achievements include work in the field of chemical reaction engineering, rheology of soft matter in the broad sense, food multiphase systems, mathematical modeling and optimization of industrial processes, and statistical analysis.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1. Kopytek, Magdalena; Zabczyk, M; Natorska, Joanna; Siudut, Jakub; Malinowski, KP; Ptaszek, Paweł ; Glajcar, Anna; Goralczyk, T; Undas, Anetta; Viscoelastic properties of plasma fibrin clots are similar in patients on rivaroxaban and vitamin K antagonists, J Physiol Pharmacol 70, 1, 70, 2019 2. Kowalski, Grzegorz; Ptaszek, Paweł ; Kuterasiński, Łukasz; Swelling of hydrogels based on carboxymethylated starch and poly (acrylic acid): Nonlinear rheological approach Polymers, 12, 11, 2564, 2020 3. Żmudziński, Daniel; Goik, Urszula; Ptaszek, Paweł ; Functional and rheological properties of Vicia faba L. protein isolates, Biomolecules, 11, 2, 178, 2021 4. Kruk, Joanna; Ptaszek, Paweł ; Kaczmarczyk, Kacper; Technological aspects of xanthan gum and gum Arabic presence in chicken egg albumin wet foams: Application of nonlinear rheology and nonparametric statistics Food Hydrocolloids, 117, 106683, 2021 5. Topolska, Kinga; Bienko, Marek; Ptaszek, Paweł ; Florkiewicz, Adam; Radzki, Radosław P; Filipiak-Florkiewicz, Agnieszka; When Incorporated into Fruit Sorbet Matrix, Are the Fructans in Natural Raw Materials More Beneficial for Bone Health than Commercial Formulation Added Alone? Animals, 12, 9, 1134, 2022 6. Ptaszek, P ; Large amplitude oscillatory shear measurement and fourier-transform rheology: Application to food Advances in Food Rheology and Its Applications, 105-141, 2023 7. Kaczmarczyk, Kacper; Kruk, Joanna; Ptaszek, Paweł ; Ptaszek, Anna; Plantago ovata husk: An investigation of raw aqueous extracts. Osmotic, hydrodynamic and complex rheological characterisation Molecules 28, 4, 1660 2023 8. Żmudziński, Daniel; Goik, Urszula; Ptaszek, Paweł ; Ptaszek, Anna; Barbasz, Jakub;

Banaś, Joanna; Lupa, Dawid; The influence of thermodynamic qualities of a solvent on the physicochemical properties of lentil protein concentrate–Second virial coefficient study Food Chemistry 434, 137329 **2024**

9. Kasapis, S; Bannikova, A; Ahmed, J; **Ptaszek, P**; Basu, S; Advances in food rheology and its applications Advances in Food Rheology and Its Applications **2017**

10. Łukasiewicz, Marcin; Dymińska-Czyż, Maja; Szymczyk, Beata; Franczyk-Żarów, Magdalena; Kostogrys, Renata; Florkiewicz, Adam; **Ptaszek, Paweł**; Zięć, Gabriela; Filipiak-Florkiewicz, Agnieszka; From Hen Nutrition to Baking: Effects of Pomegranate Seed and Linseed Oils on Egg White Foam Stability and Sponge Cake Quality Foods 14, 8, 1417 **2025**

11. Tiruneh, Abebaw; **Ptaszek, Paweł**; Żmudziński, Daniel; Tarko, Tomasz; Peas (Pisum sativum subsp. arvense Asch) and Beans (Vicia faba var. minor) as Source of Quality Plant Proteins Molecules 30, 9, 2009, **2025**

12. Kruk, Joanna; Kaczmarczyk, Kacper; **Ptaszek, Paweł**; Ptasek, Anna; Influence of Biopolymer–Biopolymer Interactions on Selected Rheological Properties of Aqueous Ionic Hydrocolloid Solutions Molecules 30, 12, 2482 **2025**

14. **Ptaszek, Paweł**; Fischer, Peter; Ptasek, Anna; Modeling of nonlinear rheological behavior of food foams: Viscoelastoplasticity caused by bubble and protein-hydrocolloid interaction Food Hydrocolloids 112243 **2025** Elsevier

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Promoted doctors

1. dr inż. Maciej Kabziński, tytuł rozprawy: „Wpływ dodatku polisacharydów nieskrobiowych na kształtowanie parametrów mieszania zawiesin skrobiowych”, praca obroniona w 2014 r. (WTŻ, URK),

2. dr inż. Kacper Kaczmarczyk, tytuł rozprawy: „Analiza właściwości reologicznych wybranych strukturalnych płynów spożywczych w warunkach in situ”, praca obroniona w 2024 r. (WTŻ, URK),

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Uniwersytet Bohai, Jinzhou, Chińska Republika Ludowa Food Factory Design, opracowanie programu oraz realizacja wykładów i zajęć laboratoryjnych (54 h) na zaproszenie Uniwersytetu Bohai dla studentów I stopnia kierunku technologia żywności w latach 2024 i 2025

Politechnika Krakowska, Wydział Inżynierii i Technologii Chemicznej

3. Process Dynamics, wykład, ćwiczenia tablicowe i projekt (zajęcia w języku angielskim), 60h, zajęcia prowadzone wg autorskiego sylabusu w ramach programu Politechnika XXI wieku – Program rozwojowy Politechniki Krakowskiej – najwyższej jakości dydaktyka dla przyszłych polskich inżynierów w latach 2013-2017.

2. Process Simulation and Optimization, wykład, ćwiczenia tablicowe i projekt, (zajęcia w języku angielskim), 60h, zajęcia prowadzone wg autorskiego sylabusu w ramach programu Politechnika XXI wieku – Program rozwojowy Politechniki Krakowskiej – najwyższej jakości dydaktyka dla przyszłych polskich inżynierów w latach 2013-2017.

3. Calculations Methods in Chemical Engineering, wykład i laboratorium, (zajęcia w języku angielskim), 30h, zajęcia prowadzone wg autorskiego sylabusu w ramach programu Politechnika XXI wieku – Program rozwojowy Politechniki Krakowskiej – najwyższej jakości dydaktyka dla przyszłych polskich inżynierów w latach 2013-2017.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Name and surname: **Marzena Zajac**

Academic title/degree: Associate Professor, PhD, Eng.

Field of science: Agricultural sciences

Discipline: Food technology and nutrition

Year of obtaining the title/degree:

List of courses and teaching hours conducted in the evaluated program:

Doctoral Seminar – Food Technology and Nutrition – 15 hours

Description of scientific achievements indicating the fields/disciplines of science in which the achievements are situated (up to 600 characters), including grant acquisition and management of grant-funded projects:

A researcher specializing in meat processing of various animal species, with particular focus on studying the effects of both natural and synthetic additives on the quality of meat products. Her work concentrates on developing functional products in which meat is the primary raw material. Recent studies concern the use of alternative substances to commonly used preservatives in meat processing—nitrites and nitrates. Principal investigator of the MINIATURA and OPUS 23 projects funded by the National Science Centre (NCN). Head of eleven commissioned research projects conducted for industry partners.

Research disciplines: Food technology and nutrition (75%), Animal science and fisheries (25%).

List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with titles and years of achievement (with particular emphasis on the last 5 years):

1. **Zajac M.**, Zhou L., Mika M., Yang Z., Wang J., Tao Y., Zhang W. (2025) Hyaluronic Acid Interactions with Pork Myofibrillar Proteins in Emulsion Gel-Type Systems, 30 (10), 2230 DOI: 10.3390/molecules30102230
2. **Zajac, M.**, & Szram, R., (2025). Evaluation of NO Synthase Activity in Meat-Brining Solutions: Implications for Meat Curing and Color Stability. *Molecules*, 30(6), 1215. <https://doi.org/10.3390/molecules30061215>
3. **Zajac M.**, Kasprzak M.M., Tkaczewska J., Berski W., Stępień A., Okpala C.O.R., Domagała J.(2024) Partial replacement of saturated fats in liver pâté by an olive oil-in-water emulsion containing β -glucan shows no compromise in sensory and storage oxidation of lipids and protein , 104 (9), pp. 5368 – 5380 DOI: 10.1002/jsfa.13368
4. **Zajac, M.**, Zajac, K., Dybaś, J. The effect of nitric oxide synthase and arginine on the color of cooked meat (2022) *Food Chemistry*, 373, 131503, DOI: 10.1016/j.foodchem.2021.131503
5. Joanna Tkaczewska, **Marzena Zajac**, Ewelina Jamróz, Hana Derbew, (2022). Utilising waste from soybean processing as raw materials for the production of preparations with antioxidant properties, serving as natural food preservatives - A pilot study, *LWT*,160, 113282 <https://doi.org/10.1016/j.lwt.2022.113282>.

6. **Zajac M.**, Pajak P., Skowrya G., (2021). Characterization of edible collagen casings in comparison with the ovine casing and their effect on the sausages quality, *Journal of the Science of Food and Agriculture*, doi:10.1002/jsfa.11254
7. **Zajac M.**, Duda I., Skoczylas Ł., Tabaszewska M. 2020. Potential use of *Hyssopus officinalis* and *Borago Officinallis* as curing ingredients in pork meat formulations. *Animals*, 10, 2327; doi:10.3390/ani10122327
8. Guzik, P., **Zajac, M.**, Kulawik, P., Turek, K., Duda, I., & Szram, R. 2024. Batch-to-batch differences in nutritional quality of selected raw and cooked pork offal. 212. doi:10.1016/j.lwt.2024.116932
9. **Patent: P.437290. Method for ensuring a pink-red color of cooked meat without the use of nitrites (III) or nitrates (V)** (Granted in 2022)
10. **Patent: P.446348 – Application of oat protein hydrolysate in the production of meat products and a method for producing oat protein hydrolysate for use in meat product manufacturing** (Granted in 2025)

*Description of teaching experience and achievements (up to 600 characters).
Competence in scientific or artistic supervision*

Author of numerous course curricula, including English-language courses; coordinator and lecturer of lectures and laboratory classes in the fields of Food Technology and Nutrition, Dietetics, and Brewing and Malting. Teaches subjects such as *Meat and Meat Products in Human Nutrition*, *Technology of Meat Snack Production*, *Basics of Meat Processing*, and *Health-Promoting Properties of Animal-Origin Products*. Supervisor of 89 master's and engineering theses. Academic advisor to two international PhD students (currently in the 2nd and 3rd year of the Doctoral School).

List of up to 10 most important teaching achievements with titles and years of achievement (with particular emphasis on the last 5 years), e.g., authorship of textbooks, teaching materials, implemented educational innovations/awards received by students under the teacher's supervision/teaching in a foreign language, including mobility activities, supervision of a student research group, others

1. Team Award, 2nd Degree, from the Rector of the University of Agriculture for Teaching Achievements (2021).
2. Teaching and course delivery under the Erasmus Programme at *Universitat Politècnica de València*, Spain, October 7–13, 2019.
3. Lecture for doctoral students during the *Doctoral Course* organized as part of the *International Congress of Meat Science and Technology*, August 2024.
4. Teaching internship in the USA – *Iowa State University*, Ames, October 3 – November 3, 2022.
5. Member of the Faculty Committee for Student Internships (2016–2025).
6. Certificate of Appreciation for supervising the master's thesis of Mr. Marcin Jaworski, who won 1st Prize in the Franciszek Nowotny Competition for his

thesis *“Evaluation of the applicability of borage and hyssop as substitutes for nitrites and nitrates in meat products.”*

7. Teaching at S. Seifullin Kazakh Agro Technical University, Astana, Kazakhstan – *Meat Processing Course*, November 1–14, 2014 (60 hours).
8. Teaching the course “Modern Meat and Dairy Science and Technology” within the *Food Technology and Human Nutrition* program.
9. Teaching in English – lectures (2.5 h) and laboratory classes (6 h) for specialization students, summer semester 2018/2019.
10. Teaching in English for Erasmus students, winter semester 2014/2015.
11. Classes for students from Kazakhstan under agreement No. D-z/5/2014/DNiWM of May 28, 2014 – *“The production of homogenised frankfurters”* (2 hours).
12. Classes for students from Kazakhstan under agreement No. D-z/2/2015/DNiWM of March 11, 2015 – *“Water holding capacity of meat”* (2 hours).

Description of professional experience in relation to the educational objectives, intended learning outcomes, and curriculum content (up to 600 characters)

From 1996 to 2022, co-owner and chief technologist at *Rzeźnictwo-Wędliniarstwo A. Nowak & Co.*, Rybnik. Responsibilities included supervision of HACCP documentation, quality control, and development of new products. Since 2021, employed as an R&D specialist at *PROMAR Sp. z o.o.*, responsible for supervising the R&D team, developing new functional formulations for the meat industry, consulting on existing products, and conducting research on newly developed products.

Enhancement of qualifications and competences in both personal scientific/artistic development and academic/artistic supervision of PhD students, as well as promotional and organizational activities (up to 600 characters)

Completion of professional development courses:

- TUVSUD Course “Food Labelling in accordance with Regulation 1169/2011” – 2025
- IFS Hygiene Training – 2025
- “Application of Statistics and Statistica in Planning and Analyzing Empirical Research in Natural Sciences – ANOVA and Regression Analysis” – 2019
- “MS Project: Project Design and Implementation” – 2022
- Trainings within the projects *“Food Production Sector Research Management”* and *“Developmental Future of Food”* organized by the Polish Association of Beef Cattle Producers – 2013
- “Case-Based Introduction to Biostatistics” – Johns Hopkins University (online, 2013)
- Seminar “Mass Spectrometry in Food Analysis,” University of Life Sciences in Poznań, 2013

Name and surname: Karen Khachatryan
Academic title/degree: DSc (habilitation) Field: Agricultural sciences Discipline: Food technology and nutrition Year of obtaining the title/degree: Master's degree in chemical sciences, 1993 Doctorate (PhD) in chemical sciences, 2002 Postdoctoral degree (DSc, habilitation) in agricultural sciences / food technology and nutrition, 2016
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> The main areas of research lie within the fields of chemistry, bio- and nanotechnology, food technology, and biopolymers. Current research focuses on the development of synthesis methods for biocomposites, flexible hydrogel films, and hydrogels based on polysaccharide–amino acid or polysaccharide–lipid complexes containing nanometals, carbon nanostructures, and quantum dots, as well as on innovative biodegradable materials for the production of active and intelligent packaging. - Scientific research project entitled “Biodegradable Film” (BZ-4730) - Development of concepts for two cosmetics and two types of packaging, using a combination of hyaluronic acid and ozone enclosed in hemp oil, and the application of biodegradable film in cosmetic packaging (BZ-4736) - Project leader under the programme “STUDENT SCIENTIFIC ASSOCIATIONS CREATE INNOVATIONS” – “Development of biodegradable films containing spherical nanoparticles for smart packaging applications”
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1. Małajowicz, Jolanta; Khachatryan, Karen; Kozłowska, Mariola; Properties of water activated with low-temperature plasma in the context of microbial activity, <i>Beverages</i>, 8,4,63,2022,MDPI 2. Nowak, Nikola; Grzebieniarz, Wiktoria; Khachatryan, Gohar; Konieczna-Molenda, Anna; Krzan, Marcel; Khachatryan, Karen; Preparation of nano/microcapsules of ozonated olive oil in chitosan matrix and analysis of physicochemical and microbiological properties of the obtained films, <i>Innovative Food Science & Emerging Technologies</i>, 82,103181,2022,Elsevier 3. Khachatryan, Gohar; Khachatryan, Lusine; Krystyan, Magdalena; Lenart-Boroń, Anna; Krzan, Marcel; Kulik, Klaudia; Biatecka, Anna; Grabacka, Maja; Nowak, Nikola; Khachatryan, Karen; ,Preparation of Nano/Microcapsules of Ozonated Olive Oil in Hyaluronan Matrix and Analysis of Physicochemical and Microbiological (Biological) Properties of the Obtained Biocomposite, <i>International Journal of Molecular Sciences</i>, 23,22,14005,2022,MDPI

4. Janik, Magdalena; **Khachatryan, Karen**; Khachatryan, Gohar; Krystyjan, Magdalena; Oszczyda, Zdzisław; Comparison of physicochemical properties of silver and gold nanocomposites based on potato starch in distilled and cold plasma-treated water, *International Journal of Molecular Sciences*, 24,3,2200,**2023**,MDPI
5. Khachatryan, Gohar; **Khachatryan, Karen**; Szczepankowska, Joanna; Krzan, Marcel; Krystyjan, Magdalena; Design of carbon nanocomposites based on sodium alginate/chitosan reinforced with graphene oxide and carbon nanotubes, *Polymers*, 15,4,925,**2023**,MDPI
6. Szczepankowska, Joanna; Khachatryan, Gohar; **Khachatryan, Karen**; Krystyjan, Magdalena; Carbon dots—types, obtaining and application in biotechnology and food technology", *International Journal of Molecular Sciences*, 24,19,14984,**2023**,MDPI
7. Turek, Katarzyna; Khachatryan, Gohar; **Khachatryan, Karen**; Krystyjan, Magdalena; An innovative method for the production of yoghurt fortified with walnut oil nanocapsules and characteristics of functional properties in relation to conventional yoghurts, *Foods*, 12,20,3842,**2023**,MDPI
8. Janik, Magdalena; Hanula, Monika; **Khachatryan, Karen**; Khachatryan, Gohar; "Nano-/Microcapsules, liposomes, and micelles in polysaccharide carriers: Applications in food technology", *Applied Sciences*, 13,21,11610,**2023**,MDPI
9. Rutkowski, Miłosz; Krzemińska-Fiedorowicz, Lidia; **Khachatryan, Karen**; Khachatryan, Gohar; Kalisz, Andrzej; Sękara, Agnieszka; Impact of silver nanoparticles in alginate gels on seed germination, growth and stress biochemical parameters of cucumber seedlings, *Plant Stress*, 12,100491,**2024**,Elsevier
10. Woszczak, Liliana; **Khachatryan, Karen**; Krystyjan, Magdalena; Lenart-Boroń, Anna; Krzan, Marcel; Białecka, Anna; Khachatryan, Gohar; Chitosan composites with beeswax and olive oil nano-microcapsules physicochemical characterization and antibacterial activity against skin microbiota, *Scientific Reports*, 15,1,35927,**2025**,Nature Publishing Group UK London

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Supervision of student research projects that received first, second, and third prizes at the National Session of Scientific Circles of the Hugo Kołłątaj University of Agriculture in Kraków. - At the National Scientific Conference "Forum of Young Scientists: Natural and Medical Sciences," student Miłosz Rutkowski was awarded first prize for presenting research conducted within the Nanomaterials Section. - Students from the section have presented their research findings at various national conferences and are co-authors of scientific publications in impact factor journals and scientific monographs. - Author of numerous course syllabi, coordinator, and lecturer conducting lectures and laboratory classes in programmes such as Gastronomy and Dietary Catering, Veterinary Medicine, and Biotechnology, in subjects including General and Inorganic Chemistry, Chemistry, Organic Chemistry, and Fundamentals of Nanotechnology.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1) 2017 – Medal of the National Education Commission for outstanding contributions to education and upbringing. 2) Supervisor of the “Nanomaterials” Section of the Student Scientific Circle of Food Technologists. 3) Supervision of student research projects that received first, second, and third prizes at the National Session of Scientific Circles of the Hugo Kołłątaj University of Agriculture in Kraków. 4) At the National Scientific Conference “Forum of Young Scientists: Natural and Medical Sciences,” student Miłosz Rutkowski was awarded first prize for presenting research conducted within the Nanomaterials Section. 5) Students from the section have presented their research results at various national conferences and are co-authors of scientific publications in journals indexed in the JCI list as well as in scientific monographs.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Co-organiser and speaker at seminars: - Seminar titled “Ozone Therapy in Theory and Practice: Stud Farms of Horses, Llamas, Alpacas and Camels,” 21 November 2020. - Seminar titled “Ozone Therapy: In the Theory and Practice of Veterinarians and Groomers,” 9 October 2021. Member of the Scientific Council of Nantes – Nanotechnology Systems Ltd. Chair of the Scientific Council of Scandia Cosmetics SA, a manufacturer of natural cosmetics. Scientific research project entitled “Biodegradable Film” (BZ-4730). Development of concepts for two cosmetics and two types of packaging, involving the use of a combination of hyaluronic acid and ozone enclosed in hemp oil, and the application of biodegradable film in cosmetic packaging (BZ-4736). Project leader under the programme “STUDENT SCIENTIFIC ASSOCIATIONS CREATE INNOVATIONS” – “Development of biodegradable films containing spherical nanoparticles for smart packaging.” Reviewer of four projects within the Topic-based Funding Grant (Chemistry) launched by the RA Science Committee of the Republic of Armenia (SC). Author and lecturer of courses on the fundamentals of nanotechnology for students.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

2011 – “Professional Manager of Research and Development Projects,” Faculty of Food Technology, Hugo Kołłątaj University of Agriculture in Kraków.
2014 – Training: “Activating Teaching Methods Using IT Tools.”
2014 – Seminar: “Scientific Research. Writing Grant Proposals – How to Apply Successfully for Research Funding.”

2014 – Specialist English language course. 2018 – Training: “Nanoparticle Size Analysis,” Malvern Panalytical.

2022 – Two international internships, including one under the Erasmus programme (Armenia), carried out at the National Academy of Sciences of Armenia.

Name and surname: Jarostaw Socha
Academic title/degree: Professor Field: forestry Discipline: forestry sciences Year of obtaining the title/degree:
<i>List of classes and hours taught in the assessed field</i> 1) Experimental Design in Life Science Research 2) Experimental Design and Modelling
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Author or co-author of over 120 peer-reviewed publications in leading JCR-indexed journals (Forest Ecology and Management, Ecological Engineering, Canadian Journal of Forest Research, Science of the Total Environment). Research focuses on forest growth modelling, site productivity, climate change effects and forest adaptation. Developed models are implemented in SILP, Web Taksator, and the National Forest Data Bank. Ranked among the world's top 2% most cited scientists (Stanford–Elsevier, 2023–2025). Position: Dean of the Faculty of Forestry, University of Agriculture in Kraków Department: Department of Forest Resource Management Discipline: Forestry sciences Functions and memberships: - Chair of the Committee on Forest Sciences and Wood Technology, Polish Academy of Sciences (since 2024) - Member of the Committee for Science Evaluation (since 2023) - Member of Editorial Boards including Forest Ecology and Management Completed long- and short-term research stays at University of British Columbia (Canada) and University of Lisbon (Portugal), and short-term study visits to Austria, Finland, Germany, France, Sweden, Italy, Croatia. Presented research results at numerous national and international conferences across Europe, the Americas, and New Zealand. Cooperates with Lunds University, SLU, University of Freiburg, University of Ljubljana, European Forest Institute, ETH Zürich. - Dean of the Faculty of Forestry (since 2024) - Vice-Dean for Research and Development (2016–2020) - Head of Forest Biometrics and Productivity Lab (since 2014) - Member of the University Senate (2002–2005, 2005–2008, 2016–2020) - Chair of the Doctoral Studies Quality Committee (2014–2016) - Disciplinary Officer for Students and Doctoral Candidates (2012–2016) - Member of the State Forests Advisory Board and Modelling Task Force.

- Award of the Minister of Science and Higher Education (2016)
- Adam Loret Prize (2018)
- 21 Rector's Awards (2005–2025)
- University of Agriculture Research Fund Scholarships (2006, 2013–2015).

List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)

1. Principal investigator or participant in over 20 national and international research projects (NCN, NCBR, MNiSW, KBN, PGL LP, Horizon 2020, Horizon Europe).

Selected projects:

- I-MAESTRO (2019–2022) – Innovative forest management strategies (ERA-NET ForestValue / Horizon 2020), principal Investigator,
- LEARNFORCLIMATE (2022–2025) – Learning to realize multiple forest policy objectives (ForestValue / NCN / EC), principal investigator
- CLIMB-FOREST (2022–2025) – Climate Mitigation and Bioeconomy pathways (Horizon Europe), principal investigator,

Earlier involved in 5th and 7th EU Framework Programmes. Collaborated with Bureau for Forest Management and Geodesy and State Forests Headquarters.

Active in COST framework (five Actions) and organizer of two COST meetings in Kraków (SENSFOR, FACESMAP, 2015).

Publications:

ich 5 lat)

- 1) **Socha, J.**, Hawryło, P., Leszczyński, K., & Tymińska-Czabańska, L. (**2023**). Height growth and site index models for main forest forming tree species in Poland. *Sylwan*, 167(10), 617–632.
- 2) **Socha, J.**, Hawryło, P., Pierzchalski, M., Stereńczak, K., Krok, G., Wężyk, P., & Tymińska-Czabańska, L. (**2020**). An allometric area-based approach—a cost-effective method for stand volume estimation based on ALS and NFI data. *Forestry: An International Journal of Forest Research*, 93(3), 344–358. <https://doi.org/10.1093/forestry/cpz062>
- 3) **Socha, J.**, Hawryło, P., Stereńczak, K., Miścicki, S., Tymińska-Czabańska, L., Młocek, W., & Gruba, P. (**2020**). Assessing the sensitivity of site index models developed using bi-temporal airborne laser scanning data to different top height estimates and grid cell sizes. *Int J Appl Earth Obs Geoinformation*, 91(January), 102129. <https://doi.org/10.1016/j.jag.2020.102129>
- 4) **Socha, J.**, Hawryło, P., Tymińska-Czabańska, L., Reineking, B., Lindner, M., Netzel, P., Grabska-Szwagrzyk, E., Vallejos, R., & Reyer, C. P. O. (**2023**). Higher site productivity and stand age enhance forest susceptibility to drought-induced mortality. *Agricultural and Forest Meteorology*, 341, 109680. <https://doi.org/10.1016/J.AGRFORMET.2023.109680>
- 5) **Socha, J.**, Solberg, S., Tymińska-Czabańska, L., Tompalski, P., & Vallet, P. (**2021**). Height growth rate of Scots pine in Central Europe increased by 29 % between 1900 and 2000 due to changes in site productivity. *Forest Ecology and Management*, 490(June 2021). <https://doi.org/10.1016/j.foreco.2021.119102>

- 6) **Socha, J.**, Tymińska-Czabańska, L., Bronisz, K., Zięba, S., & Hawryło, P. (2021). Regional height growth models for Scots pine in Poland. Scientific Reports, 11(1). <https://doi.org/10.1038/s41598-021-89826-9>
- 7) **Socha, J.**, Tymińska-Czabańska, L., Zięba, S., Cywicka, D., & Hawryło, P. (2020). Regional Height Growth Models for Scots Pine in Poland. <https://doi.org/10.21203/rs.3.rs-47496/v1>
- 8) Projekt - I-MAESTRO (2019–2022) – Innovative forest management strategies for a resilient bioeconomy under climate change and disturbances (ERA-NET ForestValue / Horizon 2020), kierownik projektu.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Authorship of teaching materials for Forest Experimental Design.
2. 2023 – supervisor of doctoral student Luiza Tymińska-Czabańska awarded the Minister's Scholarship for Outstanding Young Scientists.
3. Teaching in English – courses “Experimental Design” and “Biometry and Forest Productivity” (Master's in Forest Management).
4. Teaching in English – “Experimental Design and Modelling” at the Doctoral School.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Lecturer in forest biometrics, statistics, and growth modelling.
Supervisor of 10 completed PhD theses (4 with distinction) and numerous MSc/BSc theses.
Advisor of the Forest Biometrics Section of the Students' Scientific Society since 2001.
Supports doctoral candidates in developing scientific and organizational skills.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Completed Postgraduate Studies in Computer Information Processing Systems at AGH University of Science and Technology, Kraków.
Participated in training programs on data analysis, academic communication and public speaking (ViaMowa), and project management.

Actively supports doctoral candidates in developing research, teamwork, and communication skills.

First name and surname: Marcin Pietrzykowski
Academic title/degree: professor Field: forestry Discipline: forestry sciences Year of obtaining the title/degree: 2016
<i>List of classes and class hours for the assessed programme</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Specialises in forest ecology and forest ecosystem restoration, as well as the reclamation and remediation of post-industrial sites. Author of over 180 creative works, several chapters in books and monographs, and author and editor of several books, including those published by Springer and Elsevier. Creator of patents and author of implementations in the field of reclamation and remediation of post-industrial land. Lecturer and dean of the Faculty of Forestry at the University of Agriculture in Krakow in 2016-2024. Member of the Committee on Forest and Wood Sciences of the Polish Academy of Sciences, the Polish Academy of Arts and Sciences, the Polish Soil Science Society, and the American Society of Reclamation Science. He lectures on environmental engineering, forest ecology, reclamation, geochemistry, and environmental protection.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards), including the name and year of award (with particular emphasis on the last 5 years)</i> 1. Prasad MNV., & Pietrzykowski, M. (Ed.) 2020. Climate Change and Soil Interactions, 1st Edition, ISBN: 9780128180327, Elsevier, Page Count: 836, https://www.elsevier.com ; Pietrzykowski, M., Nunes, F. C., Prasad, M.N.V. (Ed.) 2025. Climate Change and Soil Interactions Drivers and Pathways for Sustainability 2nd Edition 2025 Elsevier ISBN: 9780443402920 eBook ISBN: 9780443402937 https://shop.elsevier.com 2. Pietrzykowski M., Krzaklewski W. 2018. Reclamation of mine lands in Poland. Chapter 27 (in:) Bio-Geotechnologies for mine site rehabilitation, Eds: Majeti NV Prasad, Paulo Favas, and Subodh K Maiti. Elsevier, Amsterdam-Oxford-Cambridge, p. 493-513. ISBN 978-0-12-812986-9 3. Pietrzykowski, M., Pająk, M., Likus-Cieślak, J., Woś, B., Chodak, M. 2023. Przykłady właściwych praktyk w rekultywacji leśnej terenów górnictwa węglowego. [W:] Łochańska D., Sierpień M. (Red.) Transformacja węgla brunatnego. Monografia. Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie, Wydział Inżynierii Łądowej i Gospodarki Zasobami, Kraków, s. 237-244. ISBN 978-83-7783-321-6 4. Pietrzykowski M., Krzaklewski W., 2007. An assessment of energy efficiency in reclamation to forest. Ecological Engineering, 30, 341-348.

5. **Pietrzykowski M. 2014.** Soil quality index as a tool for Scots pine (*Pinus sylvestris*) monoculture conversion planning on afforested, reclaimed mine land. *Journal of Forestry Research* 25(1): 63-74
6. **Pietrzykowski, M.** Daniels, W. Lee. **2014.** Estimation of carbon sequestration by pine (*Pinus sylvestris* L.) ecosystems developed on reforested post-mining sites in Poland on differing mine soil substrates. *Ecological Engineering* 73: 209–218, Pietrzykowski M., Socha J. and N. S. van Doorn. 2014. Linking heavy metal bioavailability (Cd, Cu, Zn and Pb) in Scots pine needles to soil properties in reclaimed mine areas. *Science of the Total Environment* 470-471: 501-510.
7. **Pietrzykowski M.,** Daniels W. L., Koropchak S. C. **2015.** Microtopographic effects of growth of young bald cypress (*Taxodiumdistichum* L.) in created freshwater forested wetland in southeastern Virginia. *Ecological Engineering* 83: 135 - 143 Pietrzykowski M., Gruba P., Sproul G., 2017. The effectiveness of Yellow lupine (*Lupinus luteus* L.) green manure cropping in sand mine cast reclamation. *Ecological Engineering*, 2: 72–79
8. **Pietrzykowski, M.,** Woś, B., Pająk, M., Wanic, T., Krzaklewski, W., and Chodak M. **2018.** Reclamation of a lignite combustion waste disposal site with alders (*Alnus* sp.): assessment of tree growth and nutrient status within 10 years of the experiment. *Environmental Science and Pollution Research*, 25(17), 17091-17099
9. **Pietrzykowski, M.,** Woś, B., Pająk, M., Wanic, T., Krzaklewski, W., Chodak, M. 2018. The impact of alders (*Alnus* spp.) on the physico-chemical properties of technosols on a lignite combustion waste disposal site. *Ecological Engineering*, 120: 180–186

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

He initiated and led a thorough reform of engineering and master's degree programmes in forestry, introducing, among other things, new specialisations at the master's level, including geomatics in forestry, urban forestry (urban forestry), biotechnology and genetics in forestry, forest resource management, and forest ecosystem protection, for which the faculty received the 'Studies with a Future' certificate. He lectures and conducts classes in Polish and English in the field of forestry for Polish and foreign students, and has developed and introduced programmes for new subjects in the education of foresters and foreign students in the fields of Environmental Plant Biotechnology and Soil Quality at other faculties of the University of Life Sciences in Krakow, including Restoration ecology of post-industrial sites; Ecological Engineering; Current Research Directions in Ecological Engineering and Forest Hydrology, Global Environmental Problems and others.

He gives popularisation lectures for the University of the Third Age at URK and has conducted intensive education for children and young people within the university, in schools and at community meetings, including promoting the ideas of sustainable forestry at community meetings (Forest Districts and municipalities of Podkarpacie, Lower and Upper Silesia, Małopolska); He lectures as part of the Professor Stefan Myczkowski Postgraduate Studies in Nature Conservation at URK. He is the initiator and director of the postgraduate programme: Water Management in Forests.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/ awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Second prize in the Environmental Protection category in the competition for the best master's theses in the field of environmental education and protection, for the thesis 'Small root biomass and the associated pool of biogens in soils'. technogenic substances formed on furnace waste under introduced alders (Alnus sp.) in a long-term experiment", master's student Bartłomiej Świątek, 13 December 2017

Co-author of chapters in English textbooks:

2. Handbook of Ecological and Ecosystem Engineering (Wiley);
3. Handbook of Bioremediation – Physiological;
4. Molecular and Biotechnological Intervention (Elsevier).

Co-editor and author of chapters in books used in the education of forestry, environmental engineering and biotechnology students:

5. Bio-geotechnology for mine sites rehabilitation (Elsevier);
6. Climate Change and Soil Interaction (Elsevier).

7. He developed and introduced new courses for foresters and foreign students in the fields of Environmental Plant Biotechnology and Soil Quality at other departments of the University of Life Sciences in Krakow, including Restoration ecology of post-industrial sites.

8. He is the initiator and director of a unique postgraduate programme in Poland: Water management in forests.

9. Supervisor of the implementation-oriented doctoral thesis entitled 'Optimisation of the algorithm for the restoration of microhabitats in renaturalised urban forest communities and park tree stands'. Doctoral student: Łukasz Pawlik

10. Expert in the parameterisation of scientific units in categories A and A+.

Description of professional experience in relation to educational objectives, learning outcomes assumed for the assessed area, and programme content (up to 600 characters)

Four years as Vice-Dean for Science and Development and eight years as Dean of the Faculty of Forestry at the University of Life Sciences in Krakow, when the faculty and the discipline of forestry developed there achieved scientific category A, and then A+. Established and headed the first Department of Ecological Engineering and Forest Hydrology in Poland, served three terms as a member of the Senate of the University

of Agriculture in Krakow, and served on numerous faculty and university committees. At the national level, he is a member of the Council for Scientific Excellence in the current term, an expert in the parameterisation of scientific units in categories A and A+, a member of the Scientific Council of the Ojców National Park, a member of the advisory team for forestry at the Podkarpackie Province Governor's Office, and many other bodies.

Improving qualifications and competences in terms of both personal academic or artistic development and academic or artistic supervision of doctoral students, as well as promotional and organisational activities (up to 600 characters)

He is a Fulbright scholar and was a visiting professor at Virginia Tech in the USA (2013/2014), where he also completed a post-doc in 2009. The candidate's numerous travel and scholarship experiences also include a two-month internship at Stanford University in the USA as part of the TOP 500 Innovators ministerial programme. Among his most important awards, it is worth mentioning the Toepfer Foundation's CULTURA Prize 2015 for his contribution to research on ruderal and degraded areas, which was presented at the University of Göttingen. The candidate conducts research in the field of forest ecology, reclamation and restoration of ecosystems in post-industrial areas and areas affected by ecological disasters and forest stand decay, but also goes beyond the field of agricultural sciences and forestry, using and developing knowledge in the field of environmental engineering and broadly understood environmental sciences.

First and last name: Stanisław Jan Matek
Academic title/degree: professor Field: Forestry Discipline: forest sciences Year of obtaining the title/degree: 2017
<i>List of classes and hours of classes conducted in the assessed field of study</i> DOCTORAL SEMINAR IN FORESTRY – 22.5 hours
<i>Characteristics of scientific achievements, indicating the fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Author of over 200 scientific publications, 8 patents, 4 monographs, manager of research topics financed by LIFE+, NCN, NCBiR, PGL LP, NFOŚiGW. Scientific supervisor of 8 doctoral theses. Grant NCBiR - SubNawKont 8403 - <i>Development of innovative technology for the production of substrate and fertilizers from domestic raw materials for the production of forest tree seedlings</i> - under the Intelligent Development Operational Program 2014-2020 - measure 4.1/sub-measure 4.1.4 “Application projects” (application no. POIR.04.01.04 -00-0016/20) - total costs of PLN 12,194,304.57 - and co-financing of PLN 10,859,769.88, of which PLN 5,322,604.59 for the University of Agriculture in Krakow - project manager Projekt Life+: LIFE SIP and SNAP, EU Funding (CINEA) i NFOŚiGW, LIFE21-IPN-PL-WETLANDS GREEN LIFE - Project number: 101069640: <i>Restoration and conservation of marshes, peatlands or other wetlands in Natura 2000 and Green Infrastructure areas</i> - total project cost – PLN 165,275,801, including PLN 56,865,779 for the University of Agriculture in Krakow, implementation period: January 1, 2023 – December 31, 2032 – project manager at URK BZ 4426 – <i>Optimization of forest tree seedling cultivation under controlled irrigation and fertilization conditions</i> - Order of the General Directorate of State Forests in Warsaw, contract no.: EZ-271. 3.22.2021 dated 17.11.2021 – completion date 17.11.2021 – 30.09.2026; amount: 3,978,735 – project manager BZ 4428 – UP Poznań order - <i>Designation of measurement stations, determination of selected characteristics of plant communities, collection of soil and plant samples in the areas around the measurement stations: Sarbia and Tlen1 and Tlen2, with laboratory determination of carbon in soil and biomass and analysis of the results obtained.</i> 07.02.2022-30.11.2026; amount – 884,062.50 – project manager
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards), including the name and year of award (with particular emphasis on the last 5 years)</i>

Scientific publications:

- Małek S.**, Ważny R., Błońska E., Jasik M., Lasota J., 2021. Soil fungal diversity and biological activity as indicators of fertilization strategies in a forest ecosystem after spruce disintegration in the Karpaty Mountains. *Science of The Total Environment*. vol 751, 142335, <https://doi.org/10.1016/j.scitotenv.2020.142335>,
- Kormanek, M., **Małek, S.**, Banach, J. Durło G., Jagiełło-Leńczuk K., Dudek K., 2021. Seasonal changes of perlite–peat substrate properties in seedlings grown in different sized container trays. *New Forests*. 52. 271-283. <https://doi.org/10.1007/s11056-020-09793-3>.
- Sajdak M., Siwek J.P., Wasak-Sęk K., Kosmowska A., Stańczyk T., **Małek S.**, Żelazny M., Woźniak G., Jelonkiewicz Ł., Żelazny M., 2021. Stream water chemistry changes in response to deforestation of variable origin (case study from the Carpathians, southern Poland). *CATENA*, Vol. 202, 105237, <https://doi.org/10.1016/j.catena.2021.105237>.
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- Ziemblińska K., Jasik M., **Małek S.**, Pająk M., Woś B., Urbaniak M., Olejnik J., 2025. Impact of different reforestation techniques on carbon stocks in soil and biomass of 5-year-old Scots pine crops at the windthrow area. *Catena* 254, 108901, <https://doi.org/10.1016/j.catena.2025.108901>
- Piaszczyk W., Szlachta A., Łyszczarz S., Szymański N., Jasik M., Żelazny M., **Małek S.**, Lasota J., Błońska E., 2025. The effect of soil chemical properties and ecological implications on the distribution of heavy metals in different types of peatland. *Ecological Indicators* 178, <https://doi.org/10.1016/j.ecolind.2025.113922>

Patents:

P. 421958, Sprinkler system, especially for seedlings in forest and horticultural nurseries. Creators: Kormanek M., Małek S., Durło G., Banach J. obtained on October 18, 2018

P. 421957, Sprinkler and foliar fertilization system, especially for seedlings in forest and horticultural nurseries. Creators: Kormanek M., Małek S., Durło G., Banach J. Obtained on 18.10.2018

P.438925, Station for collecting liquid filtrate samples from nursery cassettes. Creators: Kormanek M., Małek S., Banach J. Mateusiak Ł..obtained on 03.11.2022

P.441918, Measuring station for testing the compactness of substrate in containers, especially nursery containers; Creators: Kormanek M., Małek S., Mateusiak Ł., Banach J. - obtained on 15.11.2023.

P.445111, Station for measuring resistance force when removing seedlings from nursery container cells, Creators: Kormanek M., Małek S., Tabor. S., obtained on 12.02.2024

P.447971, Foliar fertilizer for the production of conifer seedlings, Creators: Małek S., Kormanek M., Jasik M., Banach J., Chorowski A., Chorowski M., obtained on March 8, 2024

P.447970, Foliar fertilizer for the production of deciduous tree seedlings, Creators: Małek S., Kormanek M., Jasik M., Banach J., Chorowski A., Chorowski M., obtained on March 8, 2024

P.446487, Station for testing the resistance of root balls of container-grown seedlings to damage Creators: Kormanek M., Małek S., Tabor S., obtained on 18.06.2025

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Internship supervisor: **PhD student Viktorija Vaštakaitė** from Lithuanian Research Centre for Agriculture and Forestry, Institute of Horticulture, Laboratory of Plant Physiology, Kaunas, Lithuania on short-term studies: 8 weeks from 5th September till 30th October 2016 at the University of Agriculture in Krakow

Academic supervision - summer semester 2017 **Prof. Michal V. Marek**, D.Sc. Fellow of the Royal Swedish Academy of Agriculture and Forestry, Global Change Research Institute of the Czech Academy of Science Visiting Professor at the Department of Forest Ecology and Reclamation, Faculty of Forestry University of Agriculture in Krakow

Academic supervision - summer semester 2018 **Prof. Michal V. Marek, D.Sc.** Fellow of the Royal Swedish Academy of Agriculture and Forestry, Global Change Research Institute of the Czech Academy of Science Visiting Professor at the Department of Forest Ecology and Reclamation, Faculty of Forestry University of Agriculture in Krakow

Internship supervisor: **PhD student Rūta Paulauskaitė** from Lithuanian Research Centre for Agriculture and Forestry, Lithuania of internship from 16th September till 16th October 2019 financed within project: “*Light as a Tool of Biofortification: Photophysiological Aspects of Essential Trace Elements Management in Leafy Vegetables*” - to learn how to perform elemental analysis using green pea samples from Her PhD thesis: „*Environmental factors inducing oxidative stress in green pea (Pisum sativum) and tools for its management*“

Internship supervisor: **of PhD student Valeriia Mishcherikova** from Lithuanian Research Centre for Agriculture and Forestry, Institute of Forestry, Department of Forest Protection and Game Management, Lithuania. She implemented a program of short-term studies – scientific visit from 15th October till 12th December, 2021 at the University of Agriculture in Krakow, Faculty of Forestry, Department of Ecology and Silviculture financed within scholarship from Education Exchanges Support Foundation granted by the Ministry of Education and Science of the Republic of Lithuania on topic: *Analysis and modelling of the spatial distribution of microorganisms colonizing Scots pine and Norway spruce in the process of climate change.*

Internship supervisor: **of PhD student Shaldybayeva Aiman** 2nd year of training with specialty "D133 Forestry" at the NC JSC "Saken Seifullin Kazakh Agrotechnical University" completed a scientific internship at the *Department of Ecology and Silviculture*, Faculty of Forestry, University of Agriculture in Krakow, Poland from 2 June 2022 to 20 June 2022

Academic supervision - summer semester 2023- profesora wizytującego - **Heorhiy Hrynyk z** Ukrainian National Forestry University, Institute of Forestry and Park Gardening.

A list of up to 10 of the most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g., authorship of textbooks, teaching materials, implemented teaching innovations/ awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

Małek S. 2016. Award of the Minister of Science and Higher Education – team award for teaching achievements – scientific monograph serving as an academic textbook and a “guide to research sites in spruce stands” entitled “Ecological and breeding conditions for the reconstruction of spruce stands in the Silesian Beskids and Żywiec

Beskids” edited by Stanisław Matek, published by the Agricultural University Press in Krakow in 2015 - in polish language

Textbook:

Olejnik J. Matek S. 2020. The role of forests in absorbing carbon dioxide from the atmosphere. Poznań University of Life Sciences Press, ISBN 978-83-7160-971-8, pp. 1-398. – monograph in polish language

Description of professional experience in relation to educational objectives, learning outcomes assumed for the assessed area, and curriculum content (up to 600 characters)

MAIN SCIENTIFIC AREAS OF INTEREST

My interests are mainly in the field of forest ecosystems, forest ecology, nutrient cycling and forest biogeochemistry and Integrated Forest Monitoring (forest vegetation types, forest stand biomass and productivity, forest biogeochemical balance and elemental circulation, nutritional imbalances, long-term changes in soil and vegetation, natural regeneration of forest trees, nutrient cycling in forest - especially connected to the effects of air pollutants, water quantity and quality in mountain forest catchments), sustainable forestry (silvicultural and management) methods, forest conversion to continue cover forestry on polluted areas and revitalization, nursery production.

Improving qualifications and competences in terms of both personal scientific or artistic development and scientific or artistic supervision of doctoral students, as well as promotional and organizational activities (up to 600 characters)

Foreign supervisor of doctoral thesis **Tumenbayeva Assel Rysbekovna** “*Estimation of carbon sequestration by plantings in the green belt of the city of Astana*”, submitted for the degree of Doctor of Philosophy (Ph.D) by specialization 6D080700 - "Forest resources and forestry" – defense date 01.07.2019, Nur-Sultan (Astana), KATU KAZAKH AGRARIAN UNIVERSITY NAMED AFTER S. SEIFULLIN Kazakhstan

Foreign supervisor of doctoral thesis **Aiman Shaldybayeva** “*Acclimatization of some shrubby plants of the Akmola region submitted for industrial landscaping*” prepared for the degree of Doctor of Philosophy (PhD) by the specialty 8D08301 «Sustainable Forest Management», group of the academic program D133 “Forestry” - defense date 27.12.2024, Nur-Sultan (Astana), KATU KAZAKH AGRARIAN UNIVERSITY NAMED AFTER S. SEIFULLIN Kazakhstan

Supervisor of Michał Jasik's M.Sc., F. Eng., doctoral thesis entitled: *The impact of environmental conditions on spatial diversity and changes in the chemistry of spring waters in the Jaszcze and Jamne (Gorce) river basins*, defended in 2016

Supervisor of the doctoral thesis of Katarzyna Krakowian, M.Sc., F. Eng., entitled: *The impact of deforestation caused by ecological disaster on the occurrence and chemical properties of spring waters in the Silesian Beskids*, defended in 2018

Supervisor of the doctoral dissertation of Tomasz Gawęda, M.Sc., F. Eng., entitled: *The impact of the initial stage of secondary succession of silver birch (Betula pendula Roth) on post-agricultural land on the content of selected elements in plants and soil*, defended with honors in 2022

Supervisor of the doctoral dissertation of Katarzyna Pająk, M.Sc., F. Eng., entitled: *The impact of peat substrate compaction on the growth of one-year-old seedlings of Scots pine (Pinus sylvestris L.) and European beech (Fagus sylvatica L.) grown in a container nursery*; defended in 2023

Supervisor of the doctoral dissertation by Odunayo Rotowa M.Sc., F. Eng., entitled: *The impact of seedling production in a container nursery on their growth on crop* – defense date 2025

Supervisor of the doctoral thesis of Radosława Cichosz, M.Sc., F. Eng., entitled: *The impact of selected environmental factors on the condition of peatlands and the possibilities of their restoration* – start of doctoral school on October 1, 2024.

Name and surname: Anna Klamerus-Iwan
Academic title/degree: DSc. Eng. Field: Agriculture and Forestry Discipline: Forest Sciences Year of degree awarded: 2019
<i>List of classes and hours taught in the assessed field</i> Supervisor of 4 PhD students: M.Sc. Muhammad Owais Khan (defense 23.10.2025) M.Sc. Pranav Dev Singh (defense 2025) M.Sc. Eng. Agata Warczyk M.Sc. Eng. Małgorzata Stopyra
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Dr. hab. Eng. Anna Klamerus-Iwan, Prof. URK, specializes in forest sciences and environmental engineering, focusing on ecohydrology, forest hydrology, and ecological engineering. Her record includes over 70 publications in IF journals, numerous book chapters, and scientific editorships. She leads the NCN OPUS LAP project (2023/51/I/NZ9/01813) and co-implements NCN 2020/39/B/ST10/00862, Pol-Nor grants, and the international project Forests in Danger (Ecuador, 2026–2028). She has organized international conferences (BioHydrology, TerraEnVision) and is an active member of COST, EGU, and national research programs.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1. Principal Investigator, NCN OPUS LAP project “Are mistletoes more than a leaking tap in a drying world?” (2024) 2. Van Stan, J. T., Dymond, S. F., Klamerus-Iwan, A., & Rosell, J. A. (2025). Editorial: Community series in bark-water interactions, volume II. <i>Frontiers in Forests and Global Change</i>, 8, Article 1688809. https://doi.org/10.3389/ffgc.2025.1688809 3. Klamerus-Iwan, A., Cambronero Ruiz, L., Muñoz Gómez, C., Warczyk, A., Singh, P. D., Khan, M. O., & Caballero-Calvo, A. (2024). Assessing water storage capacity and wettability of plants and woody fragments in post-fire environments. <i>Trees, Forest and People</i>. doi.org/10.1016/j.tfp.2024.100607 4. Klamerus-Iwan, A., Link, T. E., Keim, R. F., & Van Stan II, J. T. (2020). Storage and routing of precipitation through canopies. In J. Van Stan II, E. Gutmann, & J. Friesen (Eds.), <i>Precipitation Partitioning by Vegetation: A Global Synthesis</i> (pp. 17–34). Springer Nature.

5. 2022 P.441451 – Patent: Stand for studying the dynamics of changes in water capacity in subsurface soil horizons and water properties of plant and mineral material (RP Słowik-Opoka E., **Klamerus-Iwan A.**)
6. International researcher in the project “Forests in Danger: Diagnosis and Recovery of *Scalesia pedunculata* in Galápagos” (2026–2028). CUP: 91880000.0000.390824. Institution: ESPAM MFL (Ecuador) – Polish team leader.
7. Individual Rector’s Award for outstanding scientific achievements (2025).
8. Scientific and teaching internship at ETH Zürich, Institute of Environmental Engineering (20 Nov – 20 Dec 2025), under the EU project Enhancing teaching and research competencies at the University of Agriculture in Krakow.
9. Scientific supervisor of the Short-Term Scientific Mission of Prof. Andrés Caballero-Calvo under COST ACTION CA18135 (FIRElinks) (01.08–01.09.2023).
10. One-month scientific internship “Fires and erosion on slopes in practice,” 25.04–25.05.2023, University of Granada (Spain).

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Her teaching experience includes courses in Polish and English in hydrology, forest engineering, and water management. Supervisor of 4 PhD theses, 32 master’s, and 24 engineering theses. Co-author of curricula for the UR Doctoral School and the EUROHORT program. Lecturer in international courses (Erasmus+ BIP).

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Lecturer and co-organizer of Erasmus+ Blended Intensive Programme “Climate Smart Forestry”, University of Agriculture in Krakow (15–20 May 2023).
2. Co-author of the Doctoral School curriculum (UR), approved by Senate Resolution ZR 53/2021.
3. Co-author of the EUROHORT Doctoral Program curriculum, approved by Senate Resolution ZR 54/2021.
4. Member of the committee evaluating papers and posters at the 10th International Conference of Young Researchers, Krakow, 13–14 May 2024.
5. Member of the jury for Faculty Student Research Conferences (2014, 2023, 2024, 2025).
6. Reviewer of conference papers in the Young Scientists/PhD Students section, Mediterranean Geosciences Union Annual Meeting (2025).

7. Member of 15 PhD committees in Forest Sciences.
8. Creator, coordinator, and lecturer of the elective course Hydrology of forest and urbanized areas (Faculty of Forestry).

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Prof. Anna Klamerus-Iwan's professional experience combines long-standing teaching and research in forest hydrology, ecological engineering, and environmental protection. Her projects and international collaborations integrate cutting-edge scientific findings into teaching, developing students' analytical, research, and practical skills in line with the learning outcomes for forest and natural sciences.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

1. HydRoData: 2023 Summer School on Hydrology and Data Analysis organized by the UNESCO Chair on Water-related Disaster Risk Reduction; September 4–8, 2023, Ljubljana, Slovenia.
2. Ambassador of the "Girls in Science" program – a joint initiative of women scientists from Polish technical and medical universities, launched by the Perspektywy Educational Foundation in cooperation with the Young Science Foundation and the Association of Doctoral Students of Technical Universities.

Imię i nazwisko: Paweł Netzel
Academic title/degree: Associate Professor Field: Natural Sciences Discipline: Earth and Environmental Sciences Year of obtaining the title/degree: 2020
<i>List of classes and hours taught in the assessed field</i> Advanced Experimental Design and Modelling (20h) Specialist Statistical Workshops (30h)
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects</i> PI in project: - Regionalizacja globalnego klimatu z wykorzystaniem segmentacji, (2019/03/X/ST10/00907), NCN (Earth and Environmental Sciences) Co-I in projects: - Are mistletoes more than a leaky faucet in a drying world? The hydrological and biogeochemical impacts of mistletoes on trees and their environment (OPUS LAP No. 2023/51/I/NZ9/01813), NCN (Forestry) - Modele ryzyka zamierania drzewostanów głównych gatunków lasotwórczych Polski, (agreement no. EZ.271.3.19.2021), DG LP (Forestry) - LandTax – system oceny produktywności siedlisk, (wewnętrzny grant Rektora Uniwersytetu Rolniczego w Krakowie), 2021 (Forestry) - Teledetekcyjne określanie biomasy drzewnej i zasobów węgla w lasach, (REMBIOFOR-8402, BIOSTRATEG1/267755/4/NCBR/2015), NCBR (Forestry) - Repozytorium dendrometryczne, modelowanie grubości kory drewna dłużykowego oraz wzory do obliczania miąższości drewna kłodowanego i średnio-wymianowego KORA, (OR.271.3.3.2017), DG LP (Forestry) - Pattern-based GIS for understanding content of very large Earth Science datasets, (14-AIST14-0027), NASA (Earth and Environmental Sciences) - Knowledge retrieval from large geospatial datasets, (DEC-2012/07/B/ST6/01206), NCN (Earth and Environmental Sciences) - System wspierający porównywanie prognoz hydrologicznych, (2011/01/D/ST10/04171), NCN (Earth and Environmental Sciences)
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i>

The following scientific papers were published as part of the work conducted at the University of Agriculture in Krakow:

1. Mikołajczyk, Łukasz, Paweł Hawryło, **Paweł Netzel**, Jakub Talaga, Nikodem Zdunek, and Jarosław Socha. **2025**. "Classification of Tree Species in Poland Using CNNs Tabular-to-Pseudo Image Approach Based on Sentinel-2 Annual Seasonality Data." *Forests* 16:1–16. <https://doi.org/10.3390/f16071039>.
2. **Netzel, Paweł**, Luiza Tymińska-Czabańska, Debebe Dana Feleha, and Jarosław Socha. **2024**. "New Approach to Assess Forest Fragmentation Based on Multiscale Similarity Index." *Ecological Indicators* 158:1–8. <https://doi.org/10.1016/j.ecolind.2023.111530>.
3. Talaga, Jakub, and **Paweł Netzel**. **2024**. "Assessment of Forest Biodiversity in Poland Using Unsupervised Learning and Satellite Data." In *IGARSS 2024 - 2024 IEEE International Geoscience and Remote Sensing Symposium. Proceedings, 7-12 July, 2024*, 4294–98. Institute of Electrical and Electronics Engineers. <https://doi.org/10.1109/IGARSS53475.2024.10642676>.
4. **Netzel, Paweł**, and Tomasz Stepinski. **2022**. "Segmentation of Global Climate Dataset into Contiguous Spatial Units Having Quantitatively Homogeneous Climates." *International Journal of Climatology* 42:6741–52. <https://doi.org/10.1002/joc.7606>.
5. **Netzel, Paweł**, and J. Slopek. **2021**. "Comparison of Different Implementations of a Raster Map Calculator." *Computers & Geosciences*, 1–9. <https://doi.org/10.1016/j.cageo.2021.104824>.
6. Socha, Jarosław, **Paweł Netzel**, and Dominika Cywicka. **2020**. "Stem Taper Approximation by Artificial Neural Network and a Regression Set Models." *Forests* 11:1–14. <https://doi.org/10.3390/f11010079>.
7. **Netzel, Paweł**, and Tomasz Stepinski. **2018**. "Climate Similarity Search: GeoWeb Tool for Exploring Climate Variability." *Bulletin of the American Meteorological Society* 99:475–77. <https://doi.org/10.1175/BAMS-D-16-0334.1>.
8. Netzel, Henryka, and **Paweł Netzel**. **2018**. "High-Resolution Map of Light Pollution." *Journal of Quantitative Spectroscopy & Radiative Transfer* 221:300–308. <https://doi.org/10.1016/j.jqsrt.2018.05.038>.
9. **Netzel, Paweł**, and Tomasz F. Stepinski. **2017**. "World Climate Search and Classification Using a Dynamic Time Warping Similarity Function." In *Advances in Geocomputation. Geocomputation 2015—the 13th International Conference*, edited by Daniel A. Griffith, Yongwan Chun, and Denis J. Dean, 181–95. Advances in Geographic Information Science. Springer International Publishing. https://doi.org/10.1007/978-3-319-22786-3_17.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

As part of the Geoinformatics in Forestry specialization, I developed the curriculum, prepared materials, and taught courses:

- Algorytmy i wprowadzenie do programowania
- Analiza danych i modelowanie przestrzenne w nowoczesnym leśnictwie
- Relacyjne bazy danych i język SQL

As part of the Bioinformatics and Data Analysis specialization, I developed the

curriculum, prepared materials, and taught courses:

- Modelowanie i analiza danych wielowymiarowych

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- Teaching classes in English:

- University of Agriculture in Krakow
 - Experimental Design for the forest research, ćwiczenia/laboratorium komputerowe,
 - Advanced Experimental Design and Modelling, ćwiczenia/laboratorium komputerowe,
 - Specialist Statistical Workshops, ćwiczenia/laboratorium komputerowe,
- AGH University of Krakow - Invited lectures on software and databases in geoinformatics, cykl wykładów;

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

I have many years of experience conducting research in geoinformation analysis, temporal-spatial modeling, and applying machine learning methods and GIS systems to the environmental sciences, meteorology, and forestry. My scientific achievements include integrating natural and computer sciences to support the implementation of doctoral school learning outcomes in independent research, innovative spatial analysis, and environmental process interpretation.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

I am enhancing my proficiency in spatial data processing, AI/ML methods, and OGC open standards. I have managed and carried out research projects, including ones for NASA, and developed pattern analysis tools, such as GeoPAT 2.0. I have also supervised doctoral students in geoinformatics. I organize workshop series for employees, doctoral students, and students of the Faculty of Forestry at the University of Krakow on spatial analysis and machine learning. I also develop FOSS4G ideas (OSGeo Polska, IEEE GRSS) and promote open solutions in geodata analysis.

Name and surname: Aneta Koronowicz
Academic title/degree: DSc., Eng. Field: Agricultural Sciences Discipline: Food Technology and Nutrition Year of obtaining the title/degree: 2019
<i>List of classes and hours taught in the assessed field</i> Internal scientific seminars conducted for doctoral students under my supervision - Number of hours: 60 hours/year - Form of classes: discussion-based seminar (presentation of research progress, data analysis, scientific discussion, preparation for conference presentations and scientific publications) - Participants: PhD students preparing their dissertations under my supervision - Objective: to develop skills in presenting research results, critical data analysis, teamwork, and research ethics
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> My research lies within agricultural sciences, in the discipline of food technology and nutrition. It focuses on iodine biofortification (iodoquinolines), functional food, and (nutri)epigenomics. I have obtained funding from the National Science Centre (NCN) as PI of OPUS 19, scientific supervisor of PRELUDIUM 20, and co-investigator in OPUS 20 (LAP). I lead the URK research team in the INNOGLOBO consortium, conducted commissioned studies, and my work includes 10 patent applications (2022) and PhD supervision. List of up to 10 Most Important Scientific Achievements (last 5 years) 1. Project OPUS 19 (NCN, 2021–2026) – Application of iodoquinolines for biostimulation and biofortification of selected vegetables with iodine and evaluation of their anticancer potential in vitro – Principal Investigator. 2. Ten patent applications (2022) – related to iodine biofortification of vegetables with iodoquinolines and their functional food applications. 3. Project PRELUDIUM 20 (NCN, 2022–2026) – Effect of biofortification with iodoquinolines on iodine bioavailability and inflammatory response in a rat model – Scientific supervisor. 4. Project OPUS 20 (LAP, NCN, 2021–2026) – Sardines and sprats as sources of nutrients essential for immune system function – in vitro and in vivo studies – Research team member. 5. INNOGLOBO Project (NCBiR, 2024–2027) – Hydrogel dressing for hard-to-heal wounds containing natural ingredients from sheep and camel milk – Leader of the URK research team. 6. Commissioned research (2023–2024) – Evaluation of probiotic strains on immune response and intestinal microbiota in colitis model – Project leader. 7. Development and launch of the Laboratory of Nutrigenomic and Epigenetic Research (2025) – Enhancing research and doctoral education capacity.

8. Co-authorship of textbook (2023) – Human Nutrition. An Academic Practical Handbook, eds. T. Leszczyńska, M. Franczyk-Żarów.
9. Research project (2024) – Development of iodine-enriched dairy and vegan puddings using Kombucha fermentation – Project team leader.
10. International scientific cooperation – collaboration with the University of British Columbia (Canada), Stony Brook University (USA), and Czech University of Life Sciences (Czech Republic) on nutriepigenomics and functional food research.

List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)

1. Such A., Wiśła-Świder A., Węsierska E., Nowak E., Szatkowski P., Kopcińska J., **Koronowicz A. (2023)**. Edible chitosan–alginate-based coatings enriched with turmeric and oregano additives: Formulation, antimicrobial and non-cytotoxic properties. Food Chemistry, 426, 136662. DOI:10.1016/j.foodchem.2023.136662.
2. Dyląg A., Smoleń S., Wiśła-Świder A., Kowalska I., Sularz O., Krzemińska J., Pitala J., **Koronowicz A. (2023)**. Evaluation of the chemical composition and nutritional value of lettuce (Lactuca sativa L.) biofortified in hydroponics with iodine in the form of iodoquinolines. Frontiers in Plant Science, 14, 1288773. DOI:10.3389/fpls.2023.1288773.
3. **Koronowicz A.***, Krawczyk K., Such A., Piasna-Stupecka E., Drozdowska M., Leszczyńska T. (2024). Biological effect of Food for Special Medical Purposes (Nutramil™ Complex) on melanoma cells in vitro. Nutrients, 16(24), 4287. DOI:10.3390/nu16244287.
4. Krzemińska J., Kapusta-Duch J., Smoleń S., Kowalska I., Słupski J., Skoczeń-Słupska R., Krawczyk K., Waśniowska J., **Koronowicz A. (2024)**. Iodine-enriched kale (Brassica oleracea var. sabellica L.) – The influence of heat treatments on its iodine content, basic composition and antioxidative properties. PLoS ONE, 19(6), e0304005. DOI:10.1371/journal.pone.0304005.
5. Krawczyk K., Smoleń S., Wiśła-Świder A., Kowalska I., Kietbasa D., Pitala J., Krzemińska J., Waśniowska J., **Koronowicz A. (2024)**. Kale (Brassica oleracea L. var. sabellica) biofortified with iodoquinolines: Effectiveness of enriching with iodine and influence on chemical composition. Scientia Horticulturae, 323, 112519. DOI:10.1016/j.scienta.2023.112519.
6. Krzemińska J., Piątkowska E., Kopeć A., Smoleń S., Leszczyńska T., **Koronowicz A.* (2024)**. Iodine bioavailability and biochemical effects of Brassica oleracea var. sabellica L. biofortified with 8-hydroxy-7-iodo-5-quinolinesulfonic acid in Wistar rats. Nutrients, 16(21), 3578. DOI:10.3390/nu16213578.
7. Raczyńska A., Leszczyńska T., Skotnicki P., **Koronowicz A.* (2025)**. The impact of immunomodulatory components used in clinical nutrition – A narrative review. Nutrients, 17(5), 752. DOI:10.3390/nu17050752.

8. Sularz O., **Koronowicz A.**, Boycott C., Smoleń S., Stefańska B. (2022). Molecular effects of iodine-biofortified lettuce in human gastrointestinal cancer cells. *Nutrients*, 14(20), 4287. DOI:10.3390/nu14204287.
9. Sularz O., **Koronowicz A.**, Smoleń S., Boycott C., Stefańska B. (2023). Iodine-biofortified lettuce can promote mitochondrial-dependent pathway of apoptosis in human gastrointestinal cancer cells. *International Journal of Molecular Sciences*, 24(12), 9869. DOI:10.3390/ijms24129869.
10. Smoleń S., Kowalska I., Wiśła-Świder A., Ledwożyw-Smoleń I., Pitala J., Kiełbasa D., **Koronowicz A.** (2025). Use of iodoquinolines for iodine biofortification of potato plants. *Food Chemistry*, 472, 142825. DOI:10.1016/j.foodchem.2025.142825.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I have teaching experience in conducting seminars and classes for PhD students in biology, biotechnology, and food science. My expertise covers vegetable biofortification, functional food, and nutrigenomics. I support doctoral students in research projects, participate with them in thematic competitions and scientific debates on functional food, fostering their research, analytical, and ethical competencies.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Organization and conduct of internal scientific seminars for PhD students in the field of functional food (2020–2025)
2. Supervising PhD students implementing NCN projects in biofortification and nutrigenomics (since 2021)
3. Participation in preparing PhD students for thematic debates and competitions in functional food (2022–2025)
4. Co-authorship of teaching materials on research design and biological data analysis (2023)
5. Implementation of innovative teaching methods based on scientific case studies (2023)
6. Supporting PhD students in preparing scientific publications and conference presentations (2020–2025)
7. Co-organization of seminars and workshops for PhD students with invited experts (2022–2025)
8. Mentoring young researchers and trainees in research practice and grant proposal preparation (2020–2025)
9. Co-authorship of the textbook “Human Nutrition. An Academic Practical Handbook”, eds. T. Leszczyńska, M. Franczyk-Żarów (2023)

Equipment and launch of the Laboratory of Nutrigenomic and Epigenetic Research supporting doctoral research in molecular biology and functional food (2025)

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Scientific internships in Canada (UBC Vancouver, 2021), the USA (Stony Brook University, 2022) and the Czech Republic (CULS Prague, 2023) served as professional development aimed at enhancing international cooperation, PhD student exchange, and the implementation of modern research methods in nutriepigenomics, epigenetics, and cell biology, strengthening the unit's scientific and educational potential.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

I continuously improve my qualifications through international courses and research internships in nutriepigenomics, biofortification, and cell biology. I develop supervisory competencies, promote PhD students' achievements in scientific competitions and debates, and engage in international collaboration, including with research centers in Africa, supporting the development of functional food studies.

Name and surname: Rafał Barański
Academic title/degree: prof. dr hab. eng. Field: agricultural sciences Discipline: agriculture and horticulture (and additionally recognition of achievements in the field of plant biotechnology - decision CK, 2016) Year of obtaining the title/degree: prof. - 2014, dr hab. - 2009, dr - 1996
<i>List of classes and hours taught in the assessed field</i> Currently supervisor of four doctoral students, including two at the Doctoral School, conducting research in the field of plant biotechnology.
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> I conduct research in the field of agriculture and horticulture, focusing on the use of biotechnological methods for horticultural plant breeding and the biodiversity of genetic resources at the molecular, biochemical and morphological levels. I study the functions of genes related to salt tolerance and metabolite biosynthesis using in vitro methods, transgenesis and genome editing. I am the leader of nine research projects funded by the National Science Centre, the Ministry of Science and Higher Education, and the Ministry of Agriculture and Rural Development, including two international projects, as well as two research projects commissioned by Sensient Colors in the USA, and the contractor for 18 projects.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Halat M., Klimek-Chodacka M., Domagała A., Zając G., Oleszkiewicz T., Kapitan J., Baranski R. 2025. Chiral sensing combined with nuclease activity assay to track Cas9 dynamics in solution: ROA and CPL study. Chem. Comm. 61: 6905-6908 2) Oleszkiewicz T., Sala-Cholewa K., Godel-Jędrychowska K., Kurczynska E., Kostecka-Gugala A., Petryszak P., Baranski R. 2025. Nitrogen availability modulates carotene biosynthesis, chromoplast biogenesis, and cell wall composition in carrot callus. Plant Cell Rep. 44: 31 3) Szymonik K., Klimek-Chodacka M., Lukasiewicz A. Macko-Podgórn A., Grzebelus D., Baranski R. 2023. Comparative analysis of the carrot miRNAome in response to salt stress. Sci Rep 13: 21506 4) Godel-Jędrychowska K., Milewska-Hendel A., Sala K., Barański R., Kurczyńska E. 2023. The impact of gold nanoparticles on somatic embryogenesis using the example of Arabidopsis thaliana. Int J Mol Sci 24: 10356 5) Kamińska I., Lukasiewicz A., Klimek-Chodacka M., Długosz-Grochowska O., Rutkowska J., Szymonik K., Baranski R. 2021. Antioxidative and osmoprotecting mechanisms in carrot plants tolerant to soil salinity. Sci Rep 12: 7266 6) Klimek-Chodacka M., Gieniec M., Baranski R. 2021. Multiplex site-directed gene editing using polyethylene glycol-mediated delivery of CRISPR gRNA:Cas9

ribonucleoprotein (RNP) complexes to carrot protoplasts. Int J Mol Sci 22: 10740 7) Oleszkiewicz T., Kruczek M., Baranski R. 2021. Repression of carotenoid accumulation by nitrogen and NH₄⁺ supply in carrot callus cells in vitro. Plants 10: 1813 8) Oleszkiewicz T. Klimek-Chodacka M., Kruczek M., Godel-Jędrychowska K., Sala K., Milewska-Hendel A., Zubko M., Ewa Kurczyńska E., Qi Y., Baranski R. 2021. Inhibition of carotenoid biosynthesis by CRISPR/Cas9 triggers cell wall remodelling in carrot. Int J Mol Sci 22: 6516 9) Halat E., Klimek-Chodacka M., Orleanska J., Baranska M., Baranski R. 2021. Electronic circular dichroism of the Cas9 protein and gRNA:Cas9 ribonucleoprotein complex. Int J Mol Sci 22: 2937 10) URK Rector's Awards for outstanding scientific achievements in 2017, 2018, 2019 and 2020	<i>Characteristics of teaching experience and achievements (up to 600 characters). Competences in scientific or artistic supervision</i> I have been teaching courses since 1996 in the study programs of Biotechnology, Horticulture, TRLiP, BiAD and postgraduate studies, also in English in the international studies of IMHS and EPB and within the ERASMUS programme. The courses are related to plant biotechnology, plant breeding and genetic resources, and analysis of results. I have supervised over 50 theses, 3 doctoral students and 4 doctoral students currently conducting research. I am the author of chapters in books including Improving colour sources by plant breeding and cultivation (2016) and Compendium of Plant Genomes: The Carrot Genome (2019).
<i>A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other</i> 1) Super Belfer 2018 - award granted in a poll conducted among students of the Faculty of Biotechnology and Horticulture 2) Lectures and classes in English for students participating in the ERASMUS international exchange programme and studying IMHS and EPB, annually. 3) Member of the Academic Council of an international double degree doctoral programme European Horticulture at the Faculty of Horticulture MENDEL University in Brno od 2020 4) 4) Member of the Biotechnology Programme Council since 2012 and its chair since 2024, as well as a member of the Programme Councils: Environmental and Plant Biotechnology 2019-2024, Bioinformatics and Data Analysis 2022-2024 5) Member of the Agriculture and Horticulture Discipline Council during the following terms of office 2019-2021, 2021-2024 and 2024-2027 6) Third-degree team award from the Rector of the University of Agriculture in Krakow for outstanding achievements in the field of teaching, 2018	<i>Description of professional experience in relation to educational objectives, learning</i>

outcomes for the assessed area and programme content (up to 600 characters)

not applicable

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

- 1) Rules for the processing and protection of personal data at URK in Krakow (2018)
- 2) Health and safety training with contained use of GMM and GMO (2021, 2023)
- 3) NCN training: Final report evaluation process (2023)
- 4) Training course: Crisis communication (2024)
- 5) Training course: Artificial intelligence (AI) in research (2025)

Imię i nazwisko: Ewa Pocięcha
Academic title/degree: dr hab. inż (biological science) Field: agricultural science Discipline: agriculture and horticulture Year of obtaining the title/degree: 2006 (doctor) /2017 (habilitation)
<i>List of classes and hours taught in the assessed field</i>
PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Scientific achievements cover both the field of exact and natural sciences in the discipline of biological sciences and the field of agricultural sciences in the discipline of agriculture and horticulture. Research focuses primarily on the mechanisms of plant resistance to environmental stresses. The topics include winter hardiness, adaptation to drought and excess water, with particular emphasis on the role of phytohormones. Part of the research also concerns the impact of silver and gold nanoparticles on plant functioning. The research was carried out as part of the SONATA (NCN) project and as part of cooperation as a contractor in two international projects under the COST action, in three projects financed by the Ministry of Agriculture and Rural Development, and in five projects (one SONATA and four OPUS projects) financed by the NCN. The achievements include over 60 scientific papers, including over 50 articles in JCR-listed journals (H=19 according to Web of Science, H=22 according to Google Scholar); over 1,400 citations according to Google Scholar.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Pocięcha, E., Wójcik-Jagła, M., Daszkowska-Golec, A. et al. Brassinosteroids negatively regulate barley deacclimation tolerance via modulation of chloroplast gene expression and cell hydration. Sci Rep 15, 34971 (2025). https://doi.org/10.1038/s41598-025-18844-8 2) Ahmar, S., Shafique, M.S., Rapacz, M., Pocięcha, E. Elucidating the role of brassinosteroid signaling genes and their promoters in Arabidopsis revealed regulatory mechanisms in plant development and responses to different abiotic stresses. BMC Plant Biol 25, 970 (2025). https://doi.org/10.1186/s12870-025-06960-6 3) Jurczyk B, Dziurka M, Janowiak F, Pocięcha E, Grzesiak M, Rapacz M. 2024. Waterlogging-Induced Changes in ABA, Carbohydrates and CBF6 Modify Freezing Tolerance in Prehardened Festuca pratensis. Journal of Agronomy and Crop Science. 210, 4, e12740 4) Stachurska, J., Sadura, I., Jurczyk, B., Rudolphi-Szydło, E., Dyba, B., Pocięcha, E., Ostrowska, A., Rys, M., Kvasnica, M., Oklestkova, J., Janeczko, A., Cold Acclimation and Deacclimation of Winter Oilseed Rape, with Special Attention Being Paid to the

Role of Brassinosteroids. Int. J. Mol. Sci. **2024**, 25, 6010.

<https://doi.org/10.3390/ijms25116010>

5) Stachurska, J., Ryś, M., **Pociecha, E.**, Kalaji, H.M., Dąbrowski, P., Oklestkova, J., Jurczyk, B., Janeczko, A. Deacclimation-Induced Changes of Photosynthetic Efficiency, Brassinosteroid Homeostasis and BRI1 Expression in Winter Oilseed Rape (*Brassica napus* L.)—Relation to Frost Tolerance. Int. J. Mol. Sci. **2022**, 23, 5224.

<https://doi.org/10.3390/ijms23095224>

6) Stachurska, J., Ryś, M., **Pociecha, E.**, Kalaji, H.M., Dąbrowski, P., Oklestkova, J., Jurczyk, B., Janeczko, A. Deacclimation-Induced Changes of Photosynthetic Efficiency, Brassinosteroid Homeostasis and BRI1 Expression in Winter Oilseed Rape (*Brassica napus* L.)—Relation to Frost Tolerance. Int. J. Mol. Sci. **2022**, 23, 5224.

<https://doi.org/10.3390/ijms23095224>

7) Matras E., Gorczyca A., **Pociecha E.**, Przemieniecki S.W., Oćwieja M. **2022**.

Phytotoxicity of silver nanoparticles with different surface properties on monocots and dicots model plants. Journal of Soil Science and Plant Nutrition 22, 1647-1664.

<https://doi.org/10.1007/s42729-022-00760-9>

8) **Pociecha E.**, Gorczyca A., Dziurka M., Matras E., Oćwieja M. **2021**. Silver nanoparticles and silver ions differentially affect the phytohormone balance and yield in wheat. Agriculture 11(8), 729. Punktacja MNiSW: 100 IF2021: 3,408

9) **Pociecha, E.**, Janeczko, A., Dziurka, M. Gruszka, D., Disturbances in the Biosynthesis or Signalling of Brassinosteroids That Are Caused by Mutations in the HvDWARF, HvCPD and HvBRI1 Genes Increase the Tolerance of Barley to the Deacclimation Process. J Plant Growth Regul **2020**, 39, 1625–1637

<https://doi.org/10.1007/s00344-020-10183-4>

10) SONATA 2012-2015 DEC-2011/03/D/NZ9/05548 „Wpływ 24-epibrasinolidu na mrozoodporność oraz odporność na pleśń śniegową życicy trwałej i żyta”; kierownik

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Teaching qualifications confirmed by a diploma and many years of teaching experience in both Polish and English. Teaches biochemistry, plant physiology, and plant ecology. The co-author and author of academic books and course programs in English. Supervision of 29 theses (17 master's, 12 engineering) and 1 doctoral student, as well as tutoring.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1) Płażek A., Dubert F., Rapacz M., Bączek-Kwinta R., **Pociecha E.**, Hura K., Jurczyk B., Filek W., Kościelniak J. 2013. Ćwiczenia z biochemii. Wydawnictwo Uniwersytetu Rolniczego w Krakowie, Kraków

- 2) **Pociecha E.** 2011. Etylen. W „Fizjologia Roślin Sadowniczych” (Jankiewicz L.S, Lech W., Lipecki J., Filek M.(Ed)) PWN Warszawa). Chapter in book in polish
- 3) Development of a course in English as part of the OPEN SPACE project for students of Agriculture – Crop Physiology 2019
- 4) Development of a course in English as part of the OPEN SPACE project for students of Plant Protection – Environmental Biochemistry 2019
- 5) LLP-ERASMUS (The Lifelong Learning Programme-ERASMUS). Exchange of experiences as part of the ERASMUS program during a stay at the Norwegian University of Life Sciences, Department of Plant and Environmental Sciences, September 2010
- 6) Development of a course for postgraduate studies – “Modern methods in plant improvement” subject: Physiological basis of stress sensitivity
- 7) Teaching activities for secondary school students (e.g., 44 LO in Krakow)
- 8) Student internship supervisor under an agreement between KFHRiN and a representative of the Bioinformatics Department at UKEN 2025
- 9) Non-commercial teaching activities as part of the Science Festival project
- 10) Completion of a two-year teacher training course (AGH University of Science and Technology, Krakow, 1997)

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Many years of experience in scientific work. Participation in the exchange of experiences during national and international conferences. Independent implementation of research concepts (47% of articles as first or last author) using the latest global knowledge within the scientific discipline. Inspiring and sharing experience in cooperation with domestic and foreign entities (participation in scientific projects carried out in other institutions). Also experience related to expert work. Reviewing 2 doctoral theses, reviewing for the Czech grant agency GACR, several dozen reviews of scientific publications in IF journals.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

2024, course: Data analysis using R (URK)
 2024, course: Machine learning and artificial intelligence, basics (URK)
 2016; 2-month research internship at the Institute of Plant Genetics and Biotechnology of the Slovak Academy of Sciences, Nitra, Slovakia, entitled "Analysis of stress-induced β -1,3-glucanase activity and analysis of changes in stress markers in plants transformed with the β -1,3-glucanase gene potentially increasing resistance to environmental factors. "
 2014 Hungary - Plant Protection Institute, Hungarian Academy of Sciences, scientific visit
 2014 Completion of a specialized English language course as part of the project entitled “Strengthening the teaching potential of the University of Agriculture in Krakow.”

2014 Workshop “Activating teaching methods using IT tools” as part of the project entitled “Strengthening the teaching potential of the University of Agriculture in Krakow.”

Imię i nazwisko: Adam Tofilski
Tytuł naukowy/stopień naukowy: prof. dr hab. Dziedzina: Life sciences Dyscyplina: Biology Rok uzyskania tytułu/stopnia: 2019, Professor of Agricultural Sciences
Wykaz zajęć i godzin zajęć prowadzonych na ocenianym kierunku Audiovisual documentation and scientific drawing in zoology Methodology for observing animal behavior Invertebrate Zoology Applied zoology
Charakterystyka dorobku naukowego ze wskazaniem dziedzin/dyscyplin naukowych, w której dorobek się mieści (do 600 znaków) w tym pozyskiwanie grantów i kierowanie projektami finansowanymi z grantów. Sum of times cited according to Web of Science: 1364 H-Index according to Web of Science: 20 Grants: 1) 2022 - 2025, principal investigator, „Biogeography of the honey bee within the whole native distribution range”, Narodowe Centrum Nauki, 2021/41/B/NZ9/03153 2) 2022 - 2023, principal investigator, „Evaluation of quality of bees based on asymmetry and size of wings”, Narodowe Centrum Badań i Rozwoju, TANGO-V-A/0042/2021 3) 2014 - 2019, principal investigator, „Directional asymmetry of honey bee wings”, Narodowe Centrum Nauki, 2013/10/E/NZ9/00682
Wykaz co najwyżej 10 najważniejszych osiągnięć naukowych (publikacji/patentów/projektów badawczych/nagród) z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat) 1) Machlowska J., Kandemir I., Koca A. Ö., Kakhniashvili V., Alattal Y., Alghamdi A. Tofilski A. (2025) Variation of honey bee wings in southwestern Asia. Scientific Data (in press) 2) Payró de la Cruz E., Valencia Domínguez M., Ramos Reyes R., Tofilski A. (2025). Reexamination of honey bee Africanization in Mexico and other regions of the New World. Scientific Reports 15(1):1-10. https://doi.org/10.1038/s41598-025-00989-1 3) Kaur H., Nedić N., Tofilski A. 2024. Influence of honey bee (<i>Apis mellifera</i>) breeding on wing venation in Serbia and neighbouring countries. PeerJ 12:e17247 https://doi.org/10.7717/peerj.17247 4) Temirbayeva, K., Torekhanov A., Nuralieva U., Sheralieva Z., Tofilski A. 2023. In Search of <i>Apis mellifera pomonella</i> in Kazakhstan. Life 13:1860. https://doi.org/10.3390/life13091860 5) Aglagane A., Oleksa A., Er-Rguibi O., Tofilski A., Laghzaoui E.-M., El Mouden E.H., Aamiri A., Aourir M. 2023. Genetic diversity and population structure of the Saharan honey bee <i>Apis mellifera sahariensis</i> from southeastern Morocco: introgression assessment and implications for conservation. Apidologie 54:31 https://doi.org/10.1007/s13592-023-01009-9 6) Oleksa, A., Căuia, E., Siceanu, A., Puškadija, Z., Kovačić, M., Pinto, M. A., Rodrigues, P. J., Hatjina, F., Charistos, L., Bouga, M., Prešern, J., Kandemir, İ., Rašić, S., Kusza, S., Tofilski, A.

2023. Honey bee (*Apis mellifera*) wing images: a tool for identification and conservation. *GigaScience*, 12:giad019. <https://doi.org/10.1093/gigascience/giad019>

7) Szpila K., Johnston N. P., Akbarzadeh K., Richet R., Tofilski A. 2022. Wing measurements are a possible tool for the identification of European forensically important Sarcophagidae. *Forensic Science International*, 340:111451.

<https://doi.org/10.1016/j.forsciint.2022.111451>

8) Aglagane A., Tofilski A., Er-Rguibi O., Laghzaoui E.-M., Kimdil L., El Mouden E.H., Fuchs S., Oleksa A., Aamiri A., Aourir M. 2022. Geographical variation of honey bee (*Apis mellifera* L. 1758) populations in South-Eastern Morocco: a geometric morphometric analysis. *Insects* 13:288. <https://doi.org/10.3390/insects13030288>

9) Dukku U. H., Fuchs S., Danailu G., Grünewald B., Tofilski A., Kryger P., Meixner M. D. 2022. Morphometric and mitochondrial variation of *Apis mellifera* L. and its relationship with geographical variables in parts of West and Central Africa. *Journal of Apicultural Research*, 61:296-304. <https://doi.org/10.1080/00218839.2022.2030000>

10) Łopuch S., Tofilski A. 2021. The effect of a lack of uncapped brood on social interactions between honey bee workers and the queen. *Apidologie*, 52:1346-1357. <https://doi.org/10.1007/s13592-021-00905-2>

Charakterystyka doświadczenia i dorobku dydaktycznego (do 600 znaków). Kompetencje w zakresie opieki naukowej lub artystycznej

While studying at Jagiellonian University, I completed a course preparing me for teaching. I have been teaching students for over 30 years.

I have supervised numerous master's and bachelor's theses.

Wykaz co najwyżej 10 najważniejszych osiągnięć dydaktycznych z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat), np. autorstwo podręczników, materiałów dydaktycznych, wdrażane innowacje dydaktyczne/nagrody uzyskane przez studentów nad którymi nauczyciel sprawował opiekę naukową/prowadzenie zajęć w języku obcym, w tym w związku z mobilnością naukowca, opieka nad kołem naukowym, inne

1)

2)

3)

Opis doświadczenia zawodowego w powiązaniu z celami kształcenia, efektami uczenia się zakładanymi dla ocenianego obszaru oraz treściami programowymi (do 600 znaków)

I am an open source software developer. Among other things, I created the DKey program for editing taxonomic keys and the IdentiFly program for identifying insects based on wing measurements.

Podnoszenia kwalifikacji i kompetencji zarówno w zakresie własnego rozwoju naukowego lub artystycznego, jak i opieki naukowej lub artystycznej nad doktorantami oraz działalność promocyjna i organizacyjna (do 600 znaków)

I supervised three doctoral theses:

- 1) Mielczarek Łukasz, "Recognition of species of flies from the family Syrphidae (Diptera) based on wing measurements"
- 2) Goczał Jakub, "Intra- and interspecific morphometric variability in selected groups of beetles associated with forest ecosystems"
- 3) Nawrocka Anna, "Front wing venation patterns of selected honey bee subspecies"

I actively participate in the annual "Insect Days" organized by the University of Agriculture in Krakow.

Wersja językowa angielska	
Name and surname	Agnieszka Płazek
Academic title/degree	Prof., Ph.D., Eng.
Field of sciences.....	Exact and natural sciences
Discipline ...	biological sciences
Data of title obtaining	Professor 2011
List of classes and class hours conducted in the field of study being assessed...	Stress physiology 15 h of lecture
Characteristics of scientific achievements, indicating the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing projects financed by grants. My research primarily focuses on plant resistance to environmental stresses, with particular emphasis on biotic stress, drought, salinity, frost, and nutritional (trophic) stress. I have conducted research on plant species such as durum wheat, rye, meadow fescue, Festulolium (and other forage grasses), giant miscanthus, common buckwheat, Tatarian buckwheat, and soybean. Pathogen resistance focused on <i>Bipolaris sorokiniana</i> and <i>Microdochium nivale</i> infections in grasses and cereals, and <i>Phoma lingam</i> infections in soil rape. My research related two scientific disciplines: agriculture and horticulture, and biological sciences.	
A list of at most 10 of the most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years) 1) Project Manager of the National Science Centre (NCN) project no. UMO-2017/25/B/NZ9/00148 entitled "Studying the mechanism of embryo sac degeneration and flower abortion as the cause of poor seed set in common buckwheat (<i>Fagopyrum esculentum</i> Moench.)" 2) Project Manager of the Ministry of Agriculture and Rural Development projects HORhn-078/PB/34/14, HORhn-078/PB/49/15, HORhn-801-PB-15/16 "Research on increasing the viability and degree of pollination of buckwheat flowers to obtain higher seed yields." 3) Task manager from the University of Agriculture consortium, project leader: University of Silesia, National Science Centre (NCN) No. UMO-2020/37/B/NZ9/01499: "Cell reprogramming processes: epigenetic and proteomic analysis of cell fate in common buckwheat and calamus." 4) Szczerba, A., Płazek, A., Kopeć, P., Wójcik-Jagła, M., & Dubert, F. (2024). Effect of different Bradyrhizobium japonicum inoculants on physiological and agronomic traits of soybean (<i>Glycine max</i> (L.) Merr.) associated with different expression of nodulation genes. BMC Plant Biology, 24(1), 1201.	

- 5) 5) Szczerba, A., Płażek, A., Kopeć, P., Surówka, E., & Dubert, F. (2025). Mitigating soil drought effects in soybean with *Bradyrhizobium japonicum* inoculants. BMC Plant Biology, 25(1), 1533.
- 6) Hornyák, M., Dziurka, M., Kula-Maximenko, M., Pastuszak, J., Szczerba, A., Szklarczyk, M., & Płażek, A. (2022). Photosynthetic efficiency, growth and secondary metabolism of common buckwheat (*Fagopyrum esculentum* Moench) in different controlled-environment production systems. Scientific Reports, 12(1), 257.
- 7) Płażek, A., Słomka, A., Kopeć, P., Dziurka, M., Hornyák, M., Sychta, K., ... & Dubert, F. (2019). Effects of high temperature on embryological development and hormone profile in flowers and leaves of common buckwheat (*Fagopyrum esculentum* Moench). International Journal of Molecular Sciences, 20(7), 1705.
- 8) Płażek, A., Dziurka, M., Słomka, A., & Kopeć, P. (2023). The effect of stimulants on nectar composition, flowering, and seed yield of common buckwheat (*Fagopyrum esculentum* Moench). International Journal of Molecular Sciences, 24(16), 12852.
- 9) Płażek, A., Dziurka, M., Słomka, A., & Kopeć, P. (2023). The effect of stimulants on nectar composition, flowering, and seed yield of common buckwheat (*Fagopyrum esculentum* Moench). International Journal of Molecular Sciences, 24(16), 12852.
- 10) Płażek, A., Kopeć, P., Dziurka, M., & Słomka, A. (2023). The yield of common buckwheat (*Fagopyrum esculentum* Moench) depends on the genotype but not on the Pin-to-Thrum ratio. Scientific Reports, 13(1), 16022.

Description of teaching experience and achievements (up to 600 characters).
Competencies in the field of scientific or artistic supervision

I have supervised numerous engineering and master's theses in plant physiology and biochemistry. I also supervised eight doctoral students who participated in research projects funded by the State Committee for Scientific Research (COST Action), the Ministry of Science and Higher Education, the Ministry of Agriculture and Rural Development, and the National Science Center. I teach in subjects such as Plant Physiology with Biochemistry, Stress Physiology, Plant Adaptations to Environmental Stresses, and Plant Pathophysiology and Resistance Breeding. The latter two are my own electives. I am also the author of the academic book "Plant Pathophysiology" and the first author of the course book "Exercises in Biochemistry."

A list of at most 10 most important teaching achievements with the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students supervised by the teacher/conducting classes in a foreign language, including those related to the researcher's mobility, supervision of a scientific club, other

- 1) I am the author of the academic book "Pathophysiology of Plants," published by the University of Agriculture in Krakow Press; 2011.
- 2) I am the first author of the textbook "Exercises in Biochemistry."
- 3) I received the National Education Commission Award in 2011.

Description of professional experience in relation to the learning objectives, learning outcomes assumed for the area being assessed and the program content (up to 600 characters)

After graduating from the Agricultural University of Krakow, I spent the first 12 years of my job at the Institute of Plant Breeding and Acclimatization, where I gained experience in assessing the resistance of forage grasses to fungal diseases. Then, I began working at the Department of Plant Physiology at the Agricultural University, now the University of Krakow, where I obtained all my academic degrees and titles. I supervised numerous theses, including engineering and master's theses, and also supervised eight doctoral students. All the students were involved in the research projects and experiments I conducted.

Raising qualifications and competences both in terms of one's own scientific or artistic development, as well as scientific or artistic supervision of doctoral students and promotional and organizational activities (up to 600 characters).

Participation in scientific workshops as part of the Crop Stress project QLAM-2001-00424, IFR PAN, Kraków. In 2002-2005, international cooperation within the EU "Sages" project on winter hardiness of forage grasses: Great Britain, IGER, Aberystwyth, Norway, Agricultural University of Norway in Ås (Oslo), The Norwegian Crop Research Institute: Bodo, Kvithamar, Furenest, INRA Lusignan, France, Leonardo da Vinci Project, Vienna University of Economics. Currently, the lectures on plant physiology and biochemistry for students of the 1st High School in Kraków.

Name and surname: Agnieszka Rutkowska
Academic title/degree: dr hab., prof. URK Field: 50% Natural sciences, 50% Engineering and technology Discipline: 50% mathematics, 50% environmental engineering, mining and energy Year of obtaining the title/degree: 2001 PhD in Automatic control and robotics, field Technology 2017 habilitation in Environmental Protection and Management, field Agricultural Sciences
<i>List of classes and hours taught in the assessed field</i> Coordinator of the courses from the Module 2 of Doctoral School: Experimental design and modeling – basic level, 1st sem. 20 h Data management and analysis, 3rd sem. 30 h Workshop on specialized statistical methods (engineering studies), 4th sem. 30 h
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Field: Engineering and technology Discipline: Environmental engineering, mining and energy Scientific achievements cover publications from hydrology and water management, meteorology, and climate studies. These are: analysis of hydrological time series, extreme hydrological and meteorological events (floods, droughts), estimation of extreme events in gauged and ungauged basins, temporal and spatial variability of extreme river flows and precipitation. Research also focuses on the properties of advanced statistical methods in such analyses.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) A. Rutkowska, P. Willems, S. Mendoza Paz, A. Ziernicka-Wojtaszek, Changes in Precipitation Patterns in Poland Derived From Projected Downscaled Future Climate Data From CMIP5 and CMIP6, International Journal of Climatology, 2025, vol. 45, nr 7, p. 1-28, DOI: 10.1002/joc.8822 2) K. Kochanek, A. Rutkowska, K. Baran-Gurgul, I. Kuptel-Markiewicz, D. Mirosław-Świątek, M. Grygoruk, Analysis of changes in the occurrence of ice phenomena in upland and mountain rivers of Poland, Plos One, 2024, vol. 19, nr 7, p. 1-21, DOI: 10.1371/journal.pone.0307842 3) M. Onderka, J. Pecho, J. Szolgay, S. Kohnová, M. Garaj, K. Mikulová, S. Varšová, V. Lukášová, R. Výleta, A. Rutkowska, Applying a time-varying GEV distribution to correct bias in rainfall quantiles derived from regional climate models, Journal of Hydrology and Hydromechanics, 2024, vol. 72, nr. 4, p. 499-512, DOI: 10.2478/johh-2024-0025

- 4) K. Kołodziejczyk, **A. Rutkowska**, Estimation of the Peak over Threshold-Based Design Rainfall and Its Spatial Variability in the Upper Vistula River Basin, Poland, *Water* **2023**, Vol. 15, nr 7, p. 1-21, DOI: 10.3390/w15071316
- 5) **A. Rutkowska**, M. Osuch, M. Żelazny, K. Banasik, M. Klimek, Climatic and anthropogenic drivers of zero-flow events in intermittent rivers in Poland, **2023**, Vol. 57, p. 52-61, DOI: 10.24425/jwld.2023.145335
- 6) K. Baran-Gurgul, K. Kołodziejczyk, **A. Rutkowska**, Czasowa i przestrzenna zmienność średniego przepływu w Polsce - ujęcie regionalne, Więzik Benjamin (red.): Współczesne problemy gospodarowania zasobami wodnymi, Monografie Komitetu Gospodarki Wodnej Polskiej Akademii Nauk, vol. 45, **2022**, Komitet Gospodarki Wodnej Polskiej Akademii Nauk
- 7) Y. Trambly, **A. Rutkowska**, E. Sauquet, et al. Trends in flow intermittence for European rivers, *Hydrological Sciences Journal - Journal Des Sciences Hydrologiques*, **2021**, Vol. 66, nr 1, p. 37-49, DOI: 10.1080/02626667.2020.1849708
- 8) S. Kohnová, **A. Rutkowska**, K. Banasik, K. Hlavčová, The L-moment based regional approach to curve numbers for Slovak and Polish Carpathian catchments, *Journal of Hydrology and Hydromechanics*, **2020**, Vol. 68, nr 2, p. 170-179, DOI: 10.2478/johh-2020-0004
- 9) T. Noszczyk, **A. Rutkowska**, J. Hernik, Exploring the land use changes in Eastern Poland: statistics-based modeling, *Human and Ecological Risk Assessment*, **2020**, Vol. 26, nr 1, p. 255-282, DOI: 10.1080/10807039.2018.1506254
- 10) **A. Rutkowska**, S. Kohnová, Comparison of tests for trend in location and scale parameters in hydrological and precipitation time series, *Acta Scientiarum Polonorum Formatio Circumiectus*, **2020**, Vol. 19, nr 4, p. 41-51

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Scientific supervision as an auxiliary supervisor of the doctoral student Tomasz Noszczyk, dissertation title: "Modeling of Land Use Changes," defense in 2019.

Coordinator of the courses in the undergraduate and master studies, the last 10 years:

1. Statistics and Information Technologies, Agriculture 2021/22, 2022/23, 2024/25
2. Statistics and Information Technologies, Soil Science Erasmus Mundus, 2021/22, 2022/23
3. Data Analysis in R, Spatial Management 2020/21, 2021/22, 2022/23, 2024/25
4. Application of statistical methods in hydrology and meteorology, Postgraduate Studies in the Application of Modern Hydrology Methods in Engineering and Water Management, 2018/19, 2019/20, 2020/21, 2021/22, 2022/23, 2024/25

5. Statistical analysis of spatial data, Spatial Management 2017/18, 2018/19, 2019/20
6. Econometric models in spatial management, Spatial Management 2019/20, 2020/21, 2022/23, 2024/25
7. Statistics for Environmental Engineering for Erasmus students 2016/17, 2018/19
8. Statistical Data Analysis with R for Erasmus students 2018/19
9. Application of Statistical Methods in Water Management, Water Engineering and Management 2016/17, 2017/18, 2019/20, 2021/22
10. Mathematics, Landscape Architecture 2018/19, 2019/20, 2020/21
11. Mathematics, Forestry 2015/16, 2016/17, 2017/18
12. Information Technologies, Water Engineering and Management 2017/18

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Teaching in English:

Statistics for Environmental Engineering for Erasmus students, 2016/17, 2018/19

Statistical Data Analysis with R for Erasmus students, 2018/19

Statistics and Information Technologies, field of study: Agriculture, 2021/22, 2022/23, 2024/25

At the URK Doctoral School:

Experimental design and modeling – basic level, 2021/22, 2022/23, 2024/25

Data management and analysis, 2021/22, 2022/23, 2024/25

Workshop on specialized statistical methods, 2022/23, 2024/25

2. Distinction for the doctoral dissertation of Tomasz Noszczyk in 2019; I was the auxiliary supervisor.

3. In the last 5 years I authored the teaching materials for courses I coordinated, i.e., 3 courses at the Doctoral School and 6 courses for the undergraduate and master students.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Experience in the statistical analysis of experimental data, related to P8S_WG (knowledge), P8S_UW (skills), and P8S_KR (social competences):

1. Descriptive statistics; characteristics, visualization, sample transformation; development of research methods and techniques,
2. Analysis of a random variable – generalization of conclusions to the population; parameter estimation, formulation of statistical hypotheses, and verification,
3. Relationships between random variables,
4. Parametric and non-parametric methods; analysis of quantitative and qualitative random variables,
5. Time series analysis.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Improving qualifications and competence enhancement:

1. scientific research, study of specialized literature.
2. national and international collaboration with researchers from various disciplines, participation in projects

Poland: Jagiellonian University, Cracow University of Technology, Polish Academy of Sciences, Warsaw University of Life Sciences (SGGW),

abroad: KU Leuven (Belgium), STU Bratislava (Slovakia), NUWE Rivne (Ukraine), University of Montpellier (France)

3. participation in courses:
Runoff Prediction in Ungauged Basins, 30 June – 4 July 2025, Vienna University of Technology

Imię i nazwisko: Agnieszka Operacz
Academic title/degree: Dr. Eng. Field: Engineering and technology Discipline: Environmental engineering, mining and energy Year of obtaining the title/degree: 2019
<i>List of classes and hours taught in the assessed field</i> doctoral supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Master's degree in engineering obtained in 2001, PhD degree in 2010 in Hydrogeology, Engineering Geology and Water Protection at the Faculty of Geology, Geophysics and Environmental Protection of the AGH University of Science and Technology. During his doctoral studies, he conducted his own research project for the Scientific Research Committee, number 5T12B01224, entitled 'The role of soil and aeration zones in the self-purification processes of groundwater degraded by industrial emissions in the area of the Tadeusz Sendzimir Steelworks' (project manager). In 2019, he obtained a postdoctoral degree in engineering and technical sciences, in the discipline of environmental engineering, mining and energy, and in the specialisation of water management, water quality and resource protection, and hydroenergy. Twice awarded funding under the implementation doctoral programme (2021 and 2025) – project manager/supervisor.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Operacz A. , Bigaj A., Hap K., Kotowski T. 2022 . The Effect of Sample Preparation and Measurement Techniques on Heavy Metals Concentrations in Soil: Case Study from Kraków, Poland, Europe. Applied Sciences-Basel, 12, Article 4. https://doi.org/10.3390/app12042137 2) Operacz A. , Bielec B., Operacz T., Zachora-Buławska A., Migdał K. 2025 . Dilemma of Spent Geothermal Water Injection into Rock Masses for Geothermal Potential Development. Energies, 18, Article 15. https://doi.org/10.3390/en18153922 3) Zachora-Buławska A., Kędzior R., Operacz A. 2024 . Spent geothermal water discharge to rivers: Risk or environmental benefit? Science of the Total Environment, 954, 1–10. https://doi.org/10.1016/j.scitotenv.2024.176527 4) Operacz, A. 2021 . Possibility of Hydropower Development: A Simple-to-Use Index. Energies, 14, Article 10. https://doi.org/10.3390/en14102764 5) Operacz A. , Zachora-Buławska A., Strzelecka I., Buda M., Bielec B., Migdał K., Operacz T. 2022 . The Standard Geothermal Plant as an Innovative Combined Renewable Energy Resources System: The Case from South Poland. Energies, 15, Article 17. https://doi.org/10.3390/en15176398 6) Młyński D., Operacz A. , Wątega A. 2020 , Sensitivity of methods for calculating environmental flows on the hydrological characteristics of watercourses in aspect of

calculating the hydropower potential of rivers. Journal of Cleaner Production, 250, 1-13, <http://dx.doi.org/10.1016/j.jclepro.2019.119527>

7) **Operacz, A.**, Zachora-Butawska, A., Gonek, Z., Tomaszewska, B., Bielec, B., Operacz, T., & Bundschuh, J. (2024). Stability of geothermal waters parameters as a major factor guaranteeing the possibility of its use and discharge into the environment. Water Resources and Industry, 31, 1–12. <https://doi.org/10.1016/j.wri.2023.100233>

8) 2021-2025: research project as part of the 5th edition of the 'Implementation Doctorate' competition financed by the Ministry of Education and Science No. DWD/5/0409/2021

entitled 'Development and implementation of an optimal method of discharging used geothermal water in the light of sustainable development'. Function: project manager/supervisor

9) 2025-2029: research project as part of the 9th edition of the 'Implementation Doctorate' competition financed by the Ministry of Science and Higher Education No. DWD/9/0002/2025

entitled 'Assessment and implementation of automation of measurements of the efficiency of selected sources in order to optimise the national groundwater monitoring network'. Role: project manager/supervisor

10) Second degree Individual Award of the Rector of the Hugo Kołłątaj University of Agriculture in Krakow for outstanding achievements in the field of science for the year 2024;

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Author of a number of course descriptions and coordinator of teaching activities at the University of Agriculture in Krakow (lectures, classes, field exercises). Supervisor and reviewer of dozens of engineering and master's theses. Lecturer in postgraduate studies. Her teaching achievements are diverse in terms of subject matter (hydrogeology, geology, hydroenergy, water environment protection, water law issues, etc.), which results from her multi-faceted scientific paths and extensive professional experience in cooperation with industry. Her teaching activities correspond to her scientific competences.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1) Year tutor in 2014 (second year of Environmental Engineering studies) and 2015 (third year of Environmental Engineering studies), for both full-time and part-time students at the Kielce University of Technology

2) supervisor of foreign students under the Erasmus programme at the Kielce University of Technology (Alicia Samper Montero, Ana Maria Rodriguez Atienza and Maria Teresa Mohedano Grande), 2016

3) participation in the following training courses:

- ‘Artificial intelligence (AI) in teaching. Basic level’, 2024;
- ‘Forecasting and analysis of time series’, 2014;
- ‘Support for students with disabilities – a barrier-free university’, 2015;
- ‘First Aid’, 2020.

4) speaker in a series of lectures for students of the Kielce University of Technology entitled ‘Environmental impact assessment of renewable energy investments’ carried out as part of a project co-financed by the European Union under the European Social Fund "Project Graduate of the Kielce University of Technology – an engineer tailored to the needs of the modern economy" Human Capital Operational Programme Priority IV Measure 4.1, Sub-measure 4.1.2 (agreement UDA – POKL.04.01.02-00-213/12-00).

5) Speaker in a series of lectures in 2014-2016 for students of the AGH University of Science and Technology in Krakow entitled ‘Small hydroelectric power plants in Poland – possibilities, procedures and most common problems’ and ‘Procedures for obtaining water law decisions – theory and practice’. The lectures were delivered as part of a project co-financed by the European Union under the European Social Fund ‘POKL Project Sub-measure 4.1.2. Engineering and Environmental Protection at AGH University of Science and Technology – commissioned fields of study’.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Extensive professional experience working in private companies (Geoprofil Geological Research Company, Norway Centre, sole proprietorship) and state institutions (Polish Geological Institute – National Research Institute, Carpathian Branch). Extensive knowledge of the practical aspects of exploring, identifying and documenting groundwater resources (ordinary, medicinal and geothermal) and their protection. Function of the Dean's Representative of the Faculty of Environmental Engineering and Geodesy of the University of Agriculture for Implementation and Cooperation with External Institutions in the 2022-2024 term and continuing in the 2025-2028 term.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Supervisor of two doctoral theses:

Agnieszka Zachora-Buławska (2021–2025) ‘Development and implementation of an optimal method for discharging used geothermal water in the light of sustainable development’.

Małgorzata Jarosz (2025 - ...) ‘Assessment and implementation of automation of productivity measurements of selected sources in order to optimise the national groundwater monitoring network’.

Imię i nazwisko: Agnieszka Ziernicka-Wojtaszek Academic title/degree: dr hab. inż. Field: engineering and technology Discipline: environmental engineering, mining and energy Year of obtaining the title/degree: 2004 PhD., 2014 Habilitation
<i>List of classes and hours taught in the assessed field</i> Doctorial seminar - Dziedz.N.INŻYNIERYJNO-TECZNICZNYCH - 15 godzin
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> My scientific achievements are in the field of engineering and technology and in the disciplines of environmental engineering, mining, and energy. It includes research on the agricultural and climatic regionalization of Poland, the variability of air temperature and precipitation in Poland, the assessment of the values and resources of the atmospheric environment for the purposes of environmental shaping, the water needs of crops, the impact of weather and climate on agrotechnical activities and crop yields, extreme and harmful meteorological phenomena in agriculture, contemporary climate change and the agroecological effects of global warming, the climate of cities and suburban areas, the climate of mountains, tourism geography, and agritourism. I am the author or co-author of over 100 international scientific publications. My current H index is 8 and IF is 57.349. I have actively participated in over 100 scientific conferences in Poland and abroad, and have completed several internships abroad. I have been an editor and reviewer of highly rated articles. I have been a contractor in projects financed by the National Science Centre and HORIZON, and I am a manager in a European project.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Publication: Rutkowska A., Willems P., Mendoza S., Ziernicka-Wojtaszek A. 2025. Changes in Precipitation Patterns in Poland Derived From Projected Downscaled Future Climate Data From CMIP5 and CMIP6. International Journal of Climatology, 0:e8822. 2) Publication: Minárik M., Kišš V., Ziernicka-Wojtaszek A., Prčík M., Čimo J., Mikulová K. 2025. From Optimism to Risk: The Impact of Climate Change on Temperature Sums in Central Europe. Climate, 13, 49. 3) Publication: Wałęga A., Cebulska M., Ziernicka-Wojtaszek A., Młoczek W., Wałęga A., Nieróbca A., Caloiero T. 2024. Spatial and temporal variability of meteorological droughts including atmospheric circulation in Central Europe. Journal of Hydrology, 642 (2024) 131857. 4) Publication: Skalski T., Zając E., Jędrszczyk E., Papaj K., Kohyt J., Góra A., Kasprzycka A., Shytum D., Skowera B., Ziernicka-Wojtaszek A. 2024. Effects of

γ-polyglutamic acid on grassland sandy soil properties and plant functional traits exposed to drought stress. Scientific Reports, 14:3769.

5) Publication: **Ziernicka-Wojtaszek A.**, Kopcińska J. **2020**. Variation in atmospheric precipitation in Poland in the years 2001-2018. Atmosphere, 11, 794.

6) Expert opinion: I prepared an expert opinion on the increasing frequency of droughts in the Podkarpackie Province and the municipality of Sokołów Małopolski in connection with the construction of infrastructure to mitigate climate change, prepared for the purposes of the project “EKO-Karpaty: Investing together in a green future” submitted for co-financing from the INTERREG Poland program – Slovakia 2021–2027, Priority 1. Nature-friendly and safe borderland, March 15, 2023.

7) Project: I was a contractor in a research project entitled: “Conducting tourism market research in the municipality of Komańcza, including the development of a database to support decision-making at the local and regional level,” developed for the Carpathian Euroregion Poland Association, 2023.

8) Project: I am a contractor in the AGROSUS project: AGROecological strategies for SUSTainable weed management in key European crops, HORIZON-CL6-2022-FARM2FORK-02, 2023-2027.

9) Project: I am the manager of project AGRI-2024-0207, for analytical services on environmental and climate aspects of agriculture as well as animal welfare, animal and plant health, and forestry. Services N°AGRI-2024-0295, Title: Study on climate change adaptation in agriculture in the EU, focus on water management, commissioned by the Directorate-General (DG AGRI) of the European Commission, 2024-2025.

10) I received two awards from the Rector of the University of Kraków for scientific achievements in 2016 and 2017.

Characteristics of teaching experience and achievements (up to 600 characters).

Competences in scientific or artistic supervision

I am the author of syllabuses and coordinator of courses conducted in the form of lectures, exercises, and field classes at the University of Agriculture in Krakow. They are included in the programs of several full-time and part-time courses at the Faculty of Environmental Engineering and Geodesy: Environmental Engineering (Contemporary climate change, Planning climatology, Weather and climate engineering, Bioclimatology), Spatial Management (Economic effects of contemporary climate change, Planning climatology, Climatic conditions for the development of mountain areas, Infrastructure and tourism and recreation development, Methods of assessing the conditions for the development of agritourism), Landscape Architecture (Ecological and economic effects of contemporary climate change, Planning climatology, assessment of the suitability of the environment for agritourism), Construction (Planning climatology) and at the Faculty of Agriculture and Economics: Agriculture (Agrometeorology), Environmental Protection: (Meteorology and climatology, Contemporary climate change).

I have supervised over 130 engineering and master's theses, reviewed over 120 engineering and master's theses, and supervised the Student Research Group. I have also served on numerous diploma examination committees.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1) Teresa Olejarnik, Landscape Architecture student – 1st place and Practitioner's Award, 3rd International Scientific Student Conference, University of Agriculture in Kraków (2014). Scientific supervisor: Agnieszka Ziarnicka-Wojtaszek.
- 2) Katarzyna Gurdak, MSc Eng. – 1st place and Practitioner's Award, Student Research Conference, University of Agriculture in Kraków, and Faculty Student Research Conference (Section: Environmental Protection), 2021. Scientific supervisor: Agnieszka Ziarnicka-Wojtaszek.
- 3) I teach a course in English on the subject of Contemporary Climate Change.
- 4) I teach a course in English on the subject of Seminarium dokt-dziedz. n. inżynierijno-technicznych.
- 5) I am the supervisor of the Environmental Management Section of the Environmental Engineering Student Research Group.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Over 20 years of professional experience in scientific and research work related to environmental protection and shaping, extreme meteorological phenomena, contemporary climate change, and the agroecological effects of global warming. I have experience in conducting training courses, among others, for farmers and young people from agricultural schools on the agricultural aspects of contemporary climate change in Poland (Karniowice 2009, Łosiów 2011, Science Festival 2011, Małopolska Researchers' Night 2021, 2022, and 2023, Great Lesson in Environmental Engineering and Geodesy 2017, 2018, 2019, 2020, and 2024). I cooperate intensively with the business community.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

I supervised two doctoral dissertations in 2019 and 2024.
I reviewed eight doctoral dissertations and two postdoctoral theses.
I am a member of the Technical Committee for Rural Infrastructure, the Polish Agronomic Society, the Committee for Agrometeorology and Applied Climatology of the Polish Academy of Sciences in Lublin, the Scientific Council of the Carpathian Euroregion, and the Association Internationale de Climatologie.
I have organized several national and international scientific conferences.
I have given several interviews on Radio Lublin, Szczecin, and Krakow, on TVP3 Krakow, in Gazeta Krakowska, and Dziennik Polski on topics related to my scientific activities.

Service on Committees and Teams at the University of Agriculture in Kraków:

Member of the Electoral College,

Chair of the Disciplinary Committee for PhD Students,

Member of the Disciplinary Council for the Fields of Environmental Engineering, Mining, and Energy,

Member of the Faculty Board of the Faculty of Environmental Engineering and Land Surveying,

Member of the Environmental Engineering Study Programme Council at the Faculty of Environmental Engineering and Land Surveying,

Member of the Dean's Committee for Organization, Development, and Budget at the Faculty of Environmental Engineering and Land Surveying,

Chair of the Dean's Committee for Accreditation of Study Programmes at the Faculty of Environmental Engineering and Land Surveying.

First and last name: Agnieszka Policht-Latawiec ORCID 0000-0003-1628-9059
Academic title: Associate Professor, PhD, Engineer Field: engineering and technical sciences Disciplines of science: environmental engineering, mining and energy Year of acquiring the degree: 2016
<i>List of classes and hours taught in the assessed field</i>
Research seminar as part of the doctoral program of Ms. Thi Ngoc Trang Nguyen from Kien Giang University in Vietnam – 30 hours per semestre
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i>
1.Environmental impact of the newly constructed Domaniów water reservoir on the Radomka River (2002–2004). Project participant no. 6PO6S04921 financed by the Polish Scientific Research Committee, completed with a monograph (co-author); 2. Water management in rural areas, Water Directive. 2010. Project manager, Leonardo da Vinci “Lifelong Learning” No. 2010-1-PL1-LEO03-10419 3. Valorisation and sustainable development of cultural landscapes using innovative participation and visualization techniques - VITAL LANDSCAPES. Project participant no. 2CE 464 P3 financed by the European Regional Development Fund. 4. Intelligent detection and monitoring system for mining excavations using satellite and GIS systems – MineSens. 2021-2023. Project participant no. POIR.01.01.01-00-1465/20-00 financed by NCBiR (National Center for Research and Development).
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i>
1. Nguyen Thi Ngoc T., Policht-Latawiec A., Dąbrowska J., and Michałowska K., Current challenges, methods, and strategies for reducing the transfer of nonpoint source pollution from agricultural areas to surface water, Journal of Water and Land Development, 2025, 187–205. 2. Janicka E., Kanclerz J., Agaj T., and Policht-Latawiec A., Variability of concentrations of phosphorus forms under the conditions of weir renovation – The Głuszynka river-lake system case study, Journal of Water and Land Development, 2024, 183–189. 3. Kanownik W., Policht-Latawiec A., Możdżeń M., and Dąbrowska J., Deciphering anthropogenic impact: A multifaceted statistical analysis of physico-chemical parameters in a catchment with limited water quality data, Desalination and Water Treatment, 2024, 320, 1–10. 4. Dąbrowska J., Menéndez Orellana A. E., Kilian W., Moryl A., Cielecka N., Michałowska K., Policht-Latawiec A., Michalski A., Bednarek A., and Włóka A. Between flood and drought: How cities are facing water surplus and scarcity. Journal of Environmental Management, 2023, 345, 118557.

5. Piech I., **Policht-Latawiec A.**, Lackóová L., and Ingłot P., The assessment of elevation data consistency. A case study using the ALS and georeference database in the City of Kraków, *Journal of Water and Land Development*, **2023**, 135–144.
6. Lackóová L., Pokrývková J., Kozlovsky Dufková J., **Policht-Latawiec A.**, Michałowska K., and Dąbrowska J., Long-Term Impact of Wind Erosion on the Particle Size Distribution of Soils in the Eastern Part of the European Union, *Entropy*, **2021**, 23,1–15.
7. Kanownik W., **Policht-Latawiec A.**, and Fudała W., Nutrient Pollutants in Surface Water – Assessing Trends in Drinking Water Resource Quality for a Regional City in Central Europe, *Sustainability*, **2019**, 11, 1–15.
8. **Policht-Latawiec A.**, and Fudała W., The effect of agricultural activity on of water quality in the Jasienianka flysch stream, *Acta Scientiarum Polonorum*, series: *Formatio Circumiectus*, **2017**, 16, 57–71.
9. **Policht-Latawiec A.**, and Kanownik W., The impact of anthropopressure on physicochemical state on the Korzkiewka stream, *Journal of Ecological Engineering*, **2017**, 18, 199–208.
10. Kanownik W., and **Policht-Latawiec A.**, Impact of municipal landfill site on water quality in the Włosanka stream, *Journal of Ecological Engineering*, **2016**, 17, 57–64.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

The most important achievements in the field of teaching and education include: conducting academic lectures in Polish on economics in environmental engineering, environmental law, environmental management, geosynthetics used in environmental engineering, pressurized irrigation systems, environmental shaping and protection, business economics, and the basics of entrepreneurship, as well as the techniques of crop irrigation conducted in English for students in the Erasmus and Open Space program.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

The scientific and teaching methods I have developed over many years have resulted in the supervision of 66 master's theses and 48 engineering theses, as well as the review of 68 theses and teaching classes at the Technical School of Chemistry and Environmental Protection No. 3 in Krakow on subjects related to water, air, and soil protection. As a scientific and actively-working teacher, I promote the Faculty of Environmental Engineering and Geodesy at the University of Agriculture in Krakow among schoolchildren during my classes. In addition, every year I help to organize the Great Lesson in Environmental Engineering and Geodesy for students in order to present them with the offer of the program of seven fields of study at the Faculty.

In addition, together with students, I completed internships in Kolíňany (2014) and Nitra as part of the CEEPUS program on "Landscape management – Sustainable land use perspectives in the CER (2015), Landscape created by water (2017), Waste management in the country (2018).

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

My academic achievements are related to sustainable water resource management, hydrotechnology, environmental shaping and protection, and hydrochemistry. Currently, I am particularly interested in a practical approach to sustainable development and ESG strategies, which are essential for regulatory compliance and building a resilient company for the future. I am expanding my knowledge in this field through training, courses, and internships (e.g., at the Fachhochschule in Erfurt (University of Applied Sciences in Erfurt, Germany) and the Slovak University of Agriculture in Nitra). I also assist my foreign colleagues as a scientific editor of monographs.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

For my achievements in the field of science, I received the University of Agriculture Rector's Individual Award III^o in 2014, 2015, and 2024, and the Team Award III^o for organizational activities in 2023. I was and still am a member of the Discipline Council, I am the Dean's Representative for Information and Promotion, as well as the Chair of the Dean's Committee for Faculty Promotion. Additionally, I am a member of the Hydrobiological Society and the SITWM industry association. I was the chair of the ENVIRO 2016, 2018, and 2023 International Scientific Conferences and co-organized the ENVIRO 2025 conference in Nitra.

As part of improving my teaching qualifications, I participate in substantive training related to the subject matter of my classes, but also in the field of innovative teaching methods (including the use of AI in teaching), communication, and human resource management.

I am a co-author of projects, documentation, and other research in the field of sustainable water management.

Wersja językowa angielska	
Imię i Nazwisko Piotr Herbut	
Tytuł naukowy/stopień naukowy Professor	
Dziedzina agricultural sciences	
Dyscyplina environmental protection and development	
Rok uzyskania tytułu/stopnia 2019	
Wykaz zajęć i godzin zajęć prowadzonych na ocenianym kierunku	
Dissemination of research results (lecture – 4 hours, practical classes – 8 hours)	
Writing scientific publications (practical classes – 4 hours)	
Charakterystyka dorobku naukowego ze wskazaniem dziedzin/dyscyplin naukowych, w której dorobek się mieści (do 600 znaków) w tym pozyskiwanie grantów i kierowanie projektami finansowanymi z grantów.	
The scientific output is related to the discipline of environmental engineering, mining and energy (field of engineering and technology), as well as animal science and fisheries (agricultural sciences). It concerns bioclimatology, adaptation to climate change on animal farms—particularly in dairy cattle (prevention and risk assessment of environmental stressors)—the environmental impact of livestock production, the microclimate of animal housing, and sustainable and ecological livestock building design. The research has been and continues to be funded through research grants (NCN, KBN, MNiSW), for which I served as principal investigator (2 projects) or co-investigator (3 projects).	
Wykaz co najwyżej 10 najważniejszych osiągnięć naukowych (publikacji/patentów/projektów badawczych/nagród) z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat)	
1) Adamczyk K., Herbut P. , Godyń D., Angrecka S., Kupczyński R., Vieira F.M.C., 2024. Effect of Light on Dairy Cattle in Farm Conditions - A Review, Annals of Animal Science, 24 (4), pp. 1139 - 1151	
2) Vieira F.M.C., Portugal M.A.G., de Borba L.P., Angrecka S., Herbut P. , Jongbo A.O., De-Sousa K.T., Deniz M., 2024. Poultry Preslaughter Operations in Hot Environments: The Present Knowledge and the Next Steps Forward, Animals, 14 (19), 2865.	
3) Ciuła J., Generowicz A., Oleksy-Gębczyk A., Gronba-Chyła A., Wiewiórska I., Kwaśnicki P., Herbut P. , Koval V., 2024. Technical and Economic Aspects of Environmentally Sustainable Investment in Terms of the EU Taxonomy. Energies , 17 (10), 2239.	
4) Opryshko O., Pasichnyk N., Kiktev N., Dudnyk A., Hutsol T., Mudryk K., Herbut P. , Łyszczarz P., Kukharets V., (2024). European Green Deal: Satellite Monitoring in the Implementation of the Concept of Agricultural Development in an Urbanized Environment. Sustainability, , 16 (7), 2649.	
5) Angrecka S., Solecka U., Vieira F.M.C., Herbut P. , Deniz M., Adamczyk K., Godyń D., 2023. Noise as a factor of environmental stress for cattle - A review, Annals of Animal Science, 23 (3), pp. 717 – 723.	
6) Frigeri K.D.M., Deniz M., Damasceno F.A., Barbari M., Herbut P. , Vieira F.M.C., 2023. Effect of Heat Stress on the Behavior of Lactating Cows Housed in Compost Barns: A Systematic Review, Applied Sciences, 13 (4), 2044.	
7) Lysenko O., Kuznietsov M., Hutsol T., Mudryk K., Herbut P. , Vieira F.M.C., Mykhailova L., Sorokin D., Shevtsova A., 2023. Modeling a Hybrid Power System with Intermediate Energy Storage. Energies, 16 (3), 1461.	
8) Pilatti J.A., Vieira F.M.C., Santos L.F.D., Vismara E.S., Herbut P. , 2021. Behaviour, Hygiene, and Lameness of Dairy Cows in a Compost Barn during Cold Seasons in a	

Subtropical Climate. Annals of Animal Science, 21 (4), pp. 1555 – 1569.

9) Vieira F.M.C., Pilatti J.A., Czekoski Z.M.W., Fonsêca V.F.C., **Herbut P.**, Angrecka S., de Souza Vismara E., de Paulo Macedo V., Dos Santos M.C.R., Paśmionka I., 2021.

Effect of the silvopastoral system on the thermal comfort of lambs in a subtropical climate: A preliminary study. Agriculture, 11 (8), 790.

10) Autor i współautor 47 oryginalnych prac naukowych indeksowanych w WoS; Indeks Hirscha 19, cytowania 1155 (WoS).

Charakterystyka doświadczenia i dorobku dydaktycznego (do 600 znaków). Kompetencje w zakresie opieki naukowej lub artystycznej

I have been teaching since 1997. I served as the supervisor of the Student Scientific Circle of Ecological Construction. I supervised 2 doctoral dissertations, 104 master's theses, and 115 engineering theses. I have taught courses in several faculties of the University of Agriculture in Kraków, and I have been (and continue to be) the coordinator of several courses across five study programmes.

Wykaz co najwyżej 10 najważniejszych osiągnięć dydaktycznych z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat), np. autorstwo podręczników, materiałów dydaktycznych, wdrażane innowacje dydaktyczne/nagrody uzyskane przez studentów nad którymi nauczyciel sprawował opiekę naukową/prowadzenie zajęć w języku obcym, w tym w związku z mobilnością naukowca, opieka nad kołem naukowym, inne

- 1) Supervisor of the Student Scientific Circle "Ecological Construction."
- 2) Author of original teaching programmes for students at the University of Agriculture in Kraków.
- 3) Coordination and modification of study curricula in several degree programmes.
- 4) Preparation of faculty study programmes for PKA accreditation and successful completion of the accreditation process.
- 5) Awards and distinctions received by two students from the scientific circle at university-wide and nationwide student research conferences.
- 6) Author of 23 popular-science articles.
- 7) Participation in events promoting science and the university, such as "Researchers' Night" and "The Great Lesson of Environmental Engineering."

Opis doświadczenia zawodowego w powiązaniu z celami kształcenia, efektami uczenia się zakładanymi dla ocenianego obszaru oraz treściami programowymi (do 600 znaków)

My classes focus on research organization, the identification and evaluation of "scientific niches," the dissemination of research results, and the editing of scientific publications. The learning objectives and curriculum content are closely connected to my experience, interdisciplinary scientific achievements, and both national and international collaboration. Equally important is my long-standing professional experience in designing livestock buildings, as well as my professional building qualifications in the architectural specialty.

Podnoszenia kwalifikacji i kompetencji zarówno w zakresie własnego rozwoju naukowego lub artystycznego, jak i opieki naukowej lub artystycznej nad doktorantami oraz działalność promocyjna i organizacyjna (do 600 znaków)

I systematically improve my qualifications by participating in scientific conferences in the field of Environmental Engineering. I take part in the work of expert groups (e.g., NCBiR,

ARMiR, the Hungarian NFI, the Belgian FWO) and in international exchange, collaborating with researchers from the Federal University of Technology – Paraná (Brazil) and the Leibniz Institute for Agricultural Engineering and Bioeconomy (Germany). I am a member of the international research group *Grupo de Estudos em Biometeorologia – GEBIOMET*. I have also curated several artistic and photographic exhibitions, as well as exhibitions of student works.

Name and surname: Stawomir Kurpaska
Academic title/degree: prof. dr hab. inż. Field of mechanical engineering (75%) Discipline Environmental Engineering, Mining, Energy (25%) Year of degree/degree: title of professor (2008)
<i>List of classes and hours of classes conducted in the evaluated field of study</i> Seminar, 8 hours
<i>Characteristics of scientific achievements with an indication of scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing projects financed from grants.</i> The scientific achievements are focused on the following issues: modelling of physical processes in the Soil-Plant-Atmosphere system, problems of operating equipment in the field of renewable energy sources (heat pump, solar collectors), functionality of an integrated heating system of a building under cover using RES, issues of storing excess heat in solid-state batteries, liquid accumulator and with PCM filling, efficiency of obtaining electricity in photovoltaic modules. Co-author of 6 patents in the field of technical equipment used in greenhouses and plant production. He carried out 8 research projects in which he was the principal investigator (5), contractor (1) and scientific manager (2).
List of at most 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years) 1. Kurpaska S. i in. (2021). Experimental and modeling approach to heat and mass transfer in a porous bed of a rock-bed heat accumulator. Int. Journal of Heat Transfer: DOI 10.1016/j.ijheatmasstransfer.2021.121654 2. Kurpaska S. i in. (2025). Methodology of Determining the Intensity of Heat Exchange in a Polyntunnel: A Case Study of Synergy Between the Polyntunnel and a Stone Heat Accumulator. Energies: DOI 10.3390/en18143738 3. Kurpaska S. i in. (2024). Environmental Impact Assessment of Heat Storage System in Rock-Bed Accumulator. Energies: DOI 10.3390/en18133360 4. Kurpaska S. i in. (2024). Optimizing Energy Efficiency in a Peltier-Module-Based Cooling Microunit through Selected Control Algorithms. Energies: DOI:10.3390/en17205031 5. Kurpaska S. i in. (2023). Thermal-Mass and Microbiological Analysis of Forced Air Flow through the Stone Heat Accumulator Bed. Energies: DOI: 10.3390/en16114456 6. Kurpaska S. i in. (2022). Modelling of Energy Storage System from Photoelectric Conversion in a Phase Change Battery. Energies: DOI 10.3390/en15031132 7. Kurpaska S. i in. (2021).The Use of Geothermal Energy to Heating Crops under Cover: A Case Study of Poland. Energies. DOI 10.3390/en14092618 8. Kurpaska S. (2020). Analysis of air flow resistance through a porous stone bed. Biosystems Engineering: DOI 10.1016/j.biosystemseng.2020.08.002

9. **Kurpaska S. i in. (2020).** Analysis of the Pneumatic System Parameters of the Suction Cup Integrated with the Head for Harvesting Strawberry Fruit. Sensors: DOI 10.3390/s20164389
10. **Kurpaska S. i in. (2020):** The Use of Artificial Neural Networks for Forecasting of Air Temperature inside a Heated Foil Tunnel. Sensors: DOI 10.3390/s20030652

*Characteristics of the experience and didactic achievements (up to 600 characters).
Competence in the field of scientific or artistic supervision:*

It has all the required legal documents to conduct classes with students. Many times at meetings with high school students, he presented the research and didactic offer of his alma mater. He was a supervisor in two doctoral dissertations and 85 diploma theses (engineering and master's theses). He has reviewed 8 doctoral theses, 2 habilitation theses and 26 engineering and master's theses. As a result of the implementation of research projects, research stations were built in the facilities of the Faculty for the implementation of scientific work and didactic classes, including: a heat storage system in energy accumulators located in a foil tunnel, a foil tunnel with a complete heating system powered by: a heat pump, PV panels and a sonic boiler.

A list of at most 10 most important didactic achievements with the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented didactic innovations/awards obtained by students over whom the teacher supervised/conducting classes in a foreign language, including in connection with the mobility of the researcher, supervision of the research club, other

- 1) Author of a unique academic textbook: Greenhouses and Polytunnels: Engineering and Processes. PWRiL Publishing House, Poznań, 2007
Kurpaska S. in. (2004). Functionality of an integrated heating system in heated polytunnels. Academic textbook. PTIR Publishing House, Cracow.
Kurpaska S. i in. 2011. Thermal conversion of biomass. Academic textbook. PTIR Publishing House, Cracow.
- 2) Script Reviewer (2012): Renewable Energy Sources, Wyd. Wrocław University of Life Sciences
- 3) Co-author of study programs carried out at the Faculty: Renewable Energy Sources and Waste Management, Transport and Logistics, Mechatronic Engineering
- 4) Co-author of the report prepared for the Polish Accreditation Committee: field of study OZE i GO
Co-author of the annual report on the quality system of education implemented at the Faculty of Studies
- 5) Co-author of the concept and construction of teaching stations in the field of renewable energy equipment (solar collectors, heat pump, solar radiation conversion system in photovoltaic panels), devices for thermal conversion of biomass (boilers, pyrolytic gasification machine), strawberry harvesting robot. These positions are used in the didactic process.

Description of professional experience in relation to learning objectives, learning outcomes assumed for the area assessed and curriculum content (up to 600 characters)

Author of several scientific studies in the field of: modeling of thermal and mass processes, application of the dimensional analysis procedure in generalizing the relationships between forcing forces and the final effect of the process. The application of this analysis was used in: description of phenomena with forced air flow through a porous bed of filling (pressure drop and particle size, mass of the bed, geometric dimensions of the battery), thermal issues in the heated soil environment (final temperature as a function of thermo-hydrophysical parameters of the heated substrate, geometric parameters of the system, temperature of the flowing fluid), use of the multi-criteria optimization procedure in finding from the set of acceptable solutions of the optimal decision-making parameters of the system.

Improving qualifications and competences both in the field of their own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, as well as promotional and organizational activities (up to 600 characters)

Participation in scientific conferences (confirmed by appropriate certifications) presenting research results, participation in specialized trainings on the use of SSN in the development of obtained measurement results. Participation in conferences on the application of the mathematical modeling procedure in the description of the analyzed system (thermal issues in objects under covers). Presentation at seminars of the procedure for building a morphological table in order to find the optimal solution of the structure. Participation in trainings organized by the home university in the field of promotion of the Faculty and organization of work.

Name and surname: Krzysztof Mudryk
Academic title/degree: dr hab. inż., Professor URK Field: Technical Sciences Discipline: Mechanical Engineering Year of obtaining the title/degree: 2019
<i>List of classes and hours taught in the assessed field</i>
PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> My scientific achievements fall within engineering and technical sciences, especially mechanical engineering and environmental engineering, mining and energy. My research focuses on physical properties of biomass, processes of fragmentation, compression and agglomeration, energy modelling and solid biofuel quality. I have managed several research projects at the University and participated in national programmes (GEKON, POIG, RPO), developing fuel and fertilizer technologies.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Mudryk K, Krilek J, Leszczyńska J, Hutsol O. Wykorzystanie pozostałości z przemysłu rolno-spożywczego w produkcji biopaliw stałych. W: Kuboń M, red. Współczesne problemy inżynierii produkcji: monografia. Polskie Towarzystwo Inżynierii Rolniczej - Wydawnictwo Inżynieria Rolnicza; 2025:117–192. 2) Mudryk K, Frączek J, Leszczyńska J, Krotowski M. Technology for the Production of Energy Briquettes from Bean Stalks. <i>Energies</i>. 2025;18:1–24. doi:10.3390/en18154009 3) Sadowska U, Żabiński A, Kukiętka E, Kopeć A, Mudryk K. The Quality of the Herbal Product Obtained in the Pressure Agglomeration Process. <i>Materials</i>. 2025;18:1–14. doi:10.3390/ma18040799 4) Tryhuba A, Mudryk K, Tryhuba Anatoliy, i in. Models for sustainable management of livestock waste based on neural network architectures. <i>Sci. Rep.</i> 2025;15:1–26. doi:10.1038/s41598-025-13150-9 5) Maciejewski D, Mudryk K, Sporysz M. Forecasting Electricity Production in a Small Hydropower Plant (SHP) Using Artificial Intelligence (AI). <i>Energies</i>. 2024;17:1–26. doi:10.3390/en17246401 6) Lysenko O, Kuznietsov M, Hutsol T, Mudryk K, Herbut P, Corrêa Vieira FM, Mykhailova L, Sorokin D, Shevtsova A. Modeling a Hybrid Power System with Intermediate Energy Storage. <i>Energies</i>. 2023;16:1–12. doi:10.3390/en16031461 7) Kukharets S, Golub G, Wróbel M, Sukmaniuk O, Mudryk K, Hutsol T, Jasinskas A, Jewiarz M, Cesna J, Horetska I. A Theoretical Model of the Gasification Rate of Biomass and Its Experimental Confirmation. <i>Energies</i> [Internet]. 2022;15:1–15. 8) Mudryk K, Jewiarz M, Wróbel M, Niemiec M, Dyjakon A. Evaluation of Urban Tree Leaf Biomass-Potential, Physico-Mechanical and Chemical Parameters of Raw Material and Solid Biofuel. <i>Energies</i>. 2021;14:1–14. doi:10.3390/en14040818 9) Tryhuba A, Hutsol T, Mudryk K, i in. Planning of soil-based processes based on modeling. Wydawnictwo SGGW; 2020:138.

10) Jewiarz M, **Mudryk K**, Wróbel M, Frączek J, Dziedzic K. Parameters Affecting RDF-Based Pellet Quality. *Energies*. **2020**;13:1–17. doi:10.3390/en13040910

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I have extensive teaching experience in mechanical and energy engineering. I coordinate the courses “Mechanics and Strength of Materials” and “Techniques and Technologies of Solid Biofuel Production”. I supervise numerous BSc and MSc theses, was a supervisor of a doctoral candidate and a reviewer of four PhD dissertations. Since 2014, I have headed the accredited Laboratory of Solid Biofuel Production and Quality Assessment. For the last three years, I have served as the Dean’s Plenipotentiary for student internships.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Supervisor of the award-winning engineering thesis “*Design of a Device for Fragmenting Shoots of Fast-Growing Trees*” by Daniel Fecica, distinguished as the best engineering thesis at the Faculty of Production and Power Engineering (2021/2022) by the Kraków Branch of the Polish Society of Agricultural Engineering (PTIR).
2. Teaching in English (“Fundamentals of Biofuels Production”, “Biofuels Production Engineering”) during Erasmus+ mobility at Vytautas Magnus University Agriculture Academy, Kaunas (08–15.10.2023).
3. Teaching in English during Erasmus+ mobility at the State Agrarian and Engineering University in Podilya (26.11–04.12.2021).
4. One-month teaching internship at the Technical University in Zvolen (20.01–20.02.2025), within a project supporting the development of teaching staff.
5. Supervisor of the Scientific Club – Agrophysics Section at the Faculty of Production and Power Engineering.
6. Supervisor of scientific and teaching internships for visiting staff from Ukraine.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

My professional experience covers the design and evaluation of mechanical processes and biomass-processing technologies, directly supporting education in mechanical and energy engineering. Managing an accredited laboratory and participating in numerous R&D projects in biofuels, agglomeration processes, distributed energy systems and fertilizer technologies facilitates achieving learning outcomes in material analysis, quality assessment, process safety and technology design, including laboratory and project-based classes.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

I regularly improve my qualifications through international research internships, courses in statistical analysis, carbon footprint assessment and modern research techniques. I actively participate in national and international conferences, presenting research results. I chair the organising committee of the ICORES conference in Krynica. I contribute to the Faculty Promotion Team and enhance supervisory competences through collaboration with doctoral students and early-career researchers.

Name and surname: Jakub Sikora
Scientific title/degree: Sikora, PhD, DSc, Eng. Field of engineering and technical sciences Discipline of Mechanical Engineering Year of obtaining the title/degree Habilitated doctor: Cracow University of Agriculture, Faculty of Production and Power Engineering, 2019 Ph.D.: Cracow University of Agriculture, Faculty of Agroengineering (now Faculty of Production and Power Engineering), 2008 Master of Engineering: Cracow University of Agriculture, Faculty of Agricultural Power Engineering (now Faculty of Production and Power Engineering), 2004
<i>List of classes and hours of classes conducted in the evaluated field of study</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing projects financed from grants.</i> I have significant scientific achievements in the field of biological processing of waste from the agri-food industry, agriculture and the organic fraction of municipal waste (including green waste). Another area within which I conduct research and publish results is the biological management of products after waste processing. In addition, I deal with the issue of natural use of waste and fertilization. I have published the results of my research in reputable scientific journals. My publications are published in journals in the discipline of mechanical engineering and environmental engineering, mining and energy. I have been a reviewer of doctoral dissertations and habilitation theses in the discipline of Environmental Engineering, Mining and Power Engineering, and Mechanical Engineering. Summary of scientific achievements: 159 - Publications - Number Achieve 2 - Achievements - Number Bibliometrics • h-index (Scopus Citations) 13 - h-index (Scopus Citations) • h-index (WoS citations) 17 - h-index (WoS citations) • Total IF - 121,518 • Total SNIP - 54,046 • Total ministerial score - 5,323
<i>List of at most 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1 Chmielowski Krzysztof, Halecki Wiktor, Adam Masłoń, Bąk Łukasz, Kalenik Marek, Spychała Marcin, Bedla Dawid, Pytlowany Tomasz, Paśmionka Iwona, Sikora Jakub :

- The Efficiency of a Biological Reactor in a Domestic Wastewater Treatment Plant Operating Based on ABS (Acrylonitrile Butadiene Styrene) Material and Recycled PUR (Polyurethane) Foam, Sustainability, MDPI, vol. 16, nr 3, **2024**: 1149, s. 1-14, DOI:10.3390/su16031149, 100 punktów, IF(3,9)
- 2 Dzieniszewski Grzegorz, Jasiejko Damian, Kwaśniewski Dariusz, **Sikora Jakub**: Analiza warunków pracy kierowców w aspekcie procesów logistycznych, W: Procesy logistyczne w przemyśle: VI Konferencja naukowa z cyklu "Logistyka dziś i jutro": Monografia naukowa / Dzieniszewski Grzegorz, Kuboń Maciej (red.), **2023**, Polskie Towarzystwo Inżynierii Rolniczej - Wydawnictwo Inżynieria Rolnicza, ISBN 978-83-64377-55-6, s. 25-41, 20 punktów
 - 3 Dzieniszewski Grzegorz, Giefert Krzysztof, **Sikora Jakub**, Kiełbasa Paweł: Ocena efektywności publicznego transportu zbiorowego, W: Procesy logistyczne w przemyśle: VI Konferencja naukowa z cyklu "Logistyka dziś i jutro" : Monografia naukowa / Dzieniszewski Grzegorz, Kuboń Maciej (red.), **2023**, Polskie Towarzystwo Inżynierii Rolniczej - Wydawnictwo Inżynieria Rolnicza, ISBN 978-83-64377-55-6, s. 43-54, 20 punktów
 - 4 Komorowska Monika, Niemiec Marcin, **Sikora Jakub**, Gródek-Szostak Zofia, Gurgulu Hatice, Chowaniak Maciej, Atilgan Atilgan , Neuberger Pavel: Evaluation of Sheep Wool as a Substrate for Hydroponic Cucumber Cultivation, Agriculture (Switzerland), Multidisciplinary Digital Publishing Institute (MDPI), vol. 13, nr 3, **2023**, s. 1-14, DOI:10.3390/agriculture13030554, 140 punktów, IF(3,6)
 - 5 Pokluda Robert, Ragasová Lucia, Jurica Miloš, Kalisz Andrzej, Komorowska Monika, Niemiec Marcin, Caruso Gianluca, Gąstoł Maciej, Sękara Agnieszka: The shaping of onion seedlings performance through substrate formulation and co-inoculation with beneficial microorganism consortia, Frontiers in Plant Science, FRONTIERS MEDIA SA, vol. 14, 2023, 1222557, s. 1-17, DOI:10.3389/fpls.2023.1222557, 140 punktów, IF(5,6)
 - 6 Sadowska Urszula, Zaleski Tomasz, Kuboń Maciej, Latawiec Agnieszka, Klimek-Kopyra Agnieszka, **Sikora Jakub**, Gliniak Maciej, Kobytecki Rafał, Zarzycki Robert: Effect of the Application of Sunflower Biochar and Leafy Trees Biochar on Soil Hydrological Properties of Fallow Soils and under Soybean Cultivation, Materials, MDPI, vol. 16, nr 4, **2023**, s. 1-22, DOI:10.3390/ma16041737, 140 punktów, IF(3,4)
 - 7 Komorowska Monika, Niemiec Marcin, **Sikora Jakub**, Gródek-Szostak Zofia, Gurgulu Hatice, Chowaniak Maciej, Atilgan Atilgan , Neuberger Pavel: Evaluation of Sheep Wool as a Substrate for Hydroponic Cucumber Cultivation, Agriculture (Switzerland), Multidisciplinary Digital Publishing Institute (MDPI), vol. 13, nr 3, **2023**, s. 1-14, DOI:10.3390/agriculture13030554, 100 punktów, IF(3,408)
 - 8 Sadowska Urszula, Zaleski Tomasz, Kuboń Maciej, Latawiec Agnieszka, Klimek-Kopyra Agnieszka, **Sikora Jakub**, Gliniak Maciej, Kobytecki Rafał, Zarzycki Robert: Effect of the Application of Sunflower Biochar and Leafy Trees Biochar on Soil Hydrological Properties of Fallow Soils and under Soybean Cultivation, Materials, MDPI, vol. 16, nr 4, **2023**, s. 1-22, DOI:10.3390/ma16041737, 140 punktów, IF(3,748)
 - 9 Faichuk Oleksandr, Voliak Lesia, Hutsol Taras, Głowacki Szymon, Pantsyr Yuriy, Slobodian Sergii, Szeląg-Sikora Anna, Gródek-Szostak Zofia: European Green Deal: Threats Assessment for Agri-Food Exporting Countries to the EU,

Sustainability, vol. 14, nr 7, 2022, s. 1-17, DOI:10.3390/su14073712, 100 punktów, IF(3,889)

- 10 Komorowska Monika, Niemiec Marcin, **Sikora Jakub**, Szeląg-Sikora Anna, Gródek-Szostak Zofia, Findura Pavol, Gurgulu Hatice, Stuglik Joanna, Chowaniak Maciej, Atilgan Atilgan : Closed-Loop Agricultural Production and Its Environmental Efficiency: A Case Study of Sheep Wool Production in Northwestern Kyrgyzstan, Energies, MDPI, vol. 15, nr 17, **2022**: 6358, s. 1-14, DOI:10.3390/en15176358, 140 punktów, IF(3,252)

*Characteristics of the experience and didactic achievements (up to 600 characters).
Competence in the field of scientific or artistic supervision*

Acting as a course coordinator;

1. Faculty of Production and Power Engineering

a) Field of study: Renewable Energy Sources and Waste Management:

- I degree of study subjects: Technologies for the production of gaseous biofuels,
- Second cycle of studies: Design and operation of energy systems in buildings.
- Second cycle of studies subjects in English: Design and operation of energy systems in buildings

b) Field of study: Management and Production Engineering:

- I degree of study subjects: Cost Estimation and Standard
- Project management
- Production management
- Road transport of people and goods

c) Field of study: Agricultural and Forestry Technology

Second cycle of studies subjects: Planning of technical infrastructure.

2. Faculty of Agriculture and Economics

a) field of study: Environmental Protection

- I level of study subjects: Computer graphics with elements of ergonomics.

Acting as a supervisor of diploma theses;

Type of care: **diploma thesis supervisor**, for the period from 2008 - present, University

Hugo Kołłątaj Agricultural School in Krakow, Faculty of Production and Power Engineering, fields of study:

Agricultural and Forestry Technology, Production Management and Engineering, Renewable Energy Sources and Waste Management

- number of defended master's theses: 47,
- number of defended engineering theses: 67,

A total of 114 works.

Reviewer of 106 diploma theses,
Member of the Diploma Thesis Committee 189.

A list of at most 10 most important didactic achievements with the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented didactic innovations/awards obtained by students over whom the teacher supervised/conducting classes in a foreign language, including in connection with the mobility of the researcher, supervision of the research club, other

Authorship of scientific publications related to didactic activities;

1. Frączek J., Cieślowski B., Kuboń M., Mudryk K., **Sikora J.**, Szelaż-Sikora A., Wcisło G., Wróbel M. 2014. Biofuel production - selected problems. Polish Society of Agricultural Engineering, ISBN 978-83-64377-04-4, 149 p. (points of the Ministry of Science and Higher Education: 50)

2. Jakubowski T., Sobol Z., Łapczyńska-Kordon B., **Sikora J.**, Baran D. 2016. Selected aspects of potato tuber storage in the context of raw material quality. Polish Society of Agricultural Engineering, ISBN 978-83-64377-15-0, 131 pp. (points of the Ministry of Science and Higher Education: 25)

3. **Sikora J.** 2014. Modelling production space in the producer groups and comparative individual farms. Polish Society of Agricultural Engineering, ISBN 978-83-64377-12-9, 119 s. (punkty MNiSW: 25)

4. **Sikora J.**, Tomal A. 2016. Determination of the energy potential of biogas in a selected farm, in: Infrastructure and Ecology of Rural Areas, No. III/2, 2016, pp. 971-981, DOI:10.14597/infraeco.2016.3.2.071 (points of the Ministry of Science and Higher Education: 10)

Description of professional experience in relation to learning objectives, learning outcomes assumed for the area assessed and curriculum content (up to 600 characters)

My scientific achievements are in the field of biological processing of biomass for energy purposes and management of biomass after methane fermentation. The results of the research were published in high-scoring journals and I received one patent for an additive to methane fermentation in the form of an emulsifier.

Improving qualifications and competences both in the field of their own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, as well as promotional and organizational activities (up to 600 characters)

Active participation in the conference (oral presentation or as a listener):

-International

1. XXIX Jubilee International Scientific Conference

INFRASTRUCTURE AND ENVIRONMENT IN THE CIRCULAR ECONOMY 2023

2XVI INTERNATIONAL SCIENTIFIC CONFERENCE

COLLEGIUM OF MANAGEMENT AND QUALITY SCIENCES OF THE CRACOW
UNIVERSITY OF ECONOMICS Knowledge – Economy – Society 2024

3rd XXX Jubilee International Scientific Conference

INFRASTRUCTURE AND ENVIRONMENT IN THE CIRCULAR ECONOMY - 2024

4th XXVI International Plant Irrigation Symposium, Bydgoszcz-Fojutowo 2025

Participation in the conference, Sweden

-Nationwide

1st Scientific and Technical Conference

NEW DIRECTIONS OF RESEARCH

IN ENVIRONMENTAL ENGINEERING, ENERGY
AND SPATIAL MANAGEMENT

Bukowina Tatrzańska, 24-26 September 2025

2."The importance of IT tools in the functioning of the TSL sector", Oświęcim, 2025

3. Management and production engineering in the era of Industry 5.0 – responsible and
modern economy", Oświęcim 2025

4. PRODUCTION MANAGEMENT AND ENGINEERING IN THE ERA OF INDUSTRY 5.0 -
Energy transition and energy security of the region, Oświęcim 2024

- membership in the organizing or scientific committee of the conference

1. XXIX Jubilee International Scientific Conference

INFRASTRUCTURE AND ENVIRONMENT IN THE CIRCULAR ECONOMY, Bukowina 2023

2nd XXX Jubilee International Scientific Conference

INFRASTRUCTURE AND ENVIRONMENT IN THE CIRCULAR ECONOMY Bukovina 2024

3."The importance of IT tools in the functioning of the TSL sector", Oświęcim, 2025

4. Management and production engineering in the era of Industry 5.0 – responsible and
modern economy", Oświęcim 2025

5. PRODUCTION MANAGEMENT AND ENGINEERING IN THE ERA OF INDUSTRY 5.0 -
Energy transition and energy security of the region, Oświęcim 2024

Name and surname: Urszula Malaga-Toboła
Academic title/degree: dr hab. inż. Field: engineering and technical sciences Discipline mechanical engineering (75%); civil engineering, geodesy and transport (25%) Year of degree/degree: 2014 r.
Wykaz zajęć i godzin zajęć prowadzonych na ocenianym kierunku PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i>
The research activities of Dr. U. Malaga-Toboła, DSc, Eng., focus on issues related to the technical, economic, and organizational aspects of agricultural production. Her academic work encompasses mechanical engineering, its role and importance for the sustainable and responsible management of natural resources. Her interests include the planning, organization, and design of production and logistics processes, as well as the analysis of the impact of techniques and technologies on production efficiency and quality. Another important area of research is the evaluation and improvement of logistics systems engineering, with particular emphasis on the technology and automation of material flows.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i>
1) Murtaza, G., Hassan, N. E., Usman, M., Zaman, Q. U., Rizwan, M., Deng, G., Ahmed, Z., Majeed, A., Iqbal, J., Elshikh, M. S., AlKubaisi, N., Ahmad, S., Gurbanova, L., Iqbal, R., Malaga-Toboła, U. , & Gancarz, M. (2025). Combine effects of Broussonetia papyrifera-derived biochar and selenium nanoparticles for lead-polluted saline soils remediation during barley cultivation. Scientific Reports, 15, Article 1. https://doi.org/10.1038/s41598-025-12279-x 2) Akhter, N., Batool, M., Yaqoob, A., Shahid, M., Muhammad, F., Khan, J., Mudassir, M. A., Rasheed, M., Javed, S., Al Farraj, D. A., Alzaidi, I., Iqbal, R., Malaga-Toboła, U. , & Gancarz, M. (2024). Potential biological application of silver nanoparticles synthesized from Citrus paradisi leaves. Scientific Reports, 14, Article 1. https://doi.org/10.1038/s41598-024-79514-9 3) Findura, P., Malaga-Toboła, U. , Kwaśniewski, D., Stasiak, M., Gugata, M., Sikorska, A., & Gancarz, M. (2023). Influence of physical properties of sugar beet seeds on the work quality of the seeding mechanism. International Agrophysics, 37, Article 2. https://doi.org/10.31545/intagr/162403

4) Gancarz, M., Dobrzański Jr, B., **Malaga-Toboła, U.**, Tabor, S., Combrzyński, M., Ćwikła, D., Strobel, W. R., Oniszczyk, A., Karami, H., Darvishi, Y., Żytek, A., & Rusinek, R. (2022). Impact of Coffee Bean Roasting on the Content of Pyridines Determined by Analysis of Volatile Organic Compounds. *Molecules*, 27, Article 5. <https://doi.org/10.3390/molecules27051559>

5) Khorramifar, A., Rasekh, M., Karami, H., **Malaga-Toboła, U.**, & Gancarz, M. (2021). A Machine Learning Method for Classification and Identification of Potato Cultivars Based on the Reaction of MOS Type Sensor-Array. *Sensors*, 21, Article 17. <https://doi.org/10.3390/s21175836>

Patents:

6) 2023 r. - 244040 Two-chamber mineral fertilizer spreader

7) 2023 r. - 243131 Two-beam ridger with drainage chisel

Industrial and utility designs:

8) 2022 r. - 27915 Wrapping machine

Participation in projects

9) „Research network of natural science universities for the development of the Polish dairy sector – research project” - SUP-RIM, contract no. MEiN/2023/DPI/2872. Area II. Innovative engineering solutions supporting pro-environmental activities of Polish dairy plants – 2024, 2025r.

Awards

10) 2025 r. - IIIo Individual Award of the Rector of the Hugo Kottłataj University of Agriculture in Kraków for outstanding achievements in the field of science

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Dr. U. Malaga-Toboła, DSc, Eng., has 27 years of teaching experience, combining it with a scientific achievement that includes numerous publications in renowned publishing houses and co-authorship of patents and industrial designs. She has completed domestic and international internships, completed two postgraduate programs, holds a PRINCE2 certificate, and holds numerous teaching certificates. She has participated in numerous research projects, including Visegrad Projects on environmental protection and water management. She serves as Vice-Dean for Teaching and Student Affairs at the Faculty of Production and Energy Engineering. She co-creates study programs, serves on faculty and rector's committees, and co-organizes conferences, workshops, and Erasmus trips for students. She collaborates with businesses and universities both domestically and internationally. For her achievements, she has received numerous awards, including the Medal of the National Education Commission.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks,

teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1) Author's Books

- **Malaga-Toboła Urszula:** Possibilities of Modernizing Technical Equipment on Mountain Organic Dairy Farms, Agricultural Engineering. Monographs and Papers, vol. 37, no. 3, **2013**, Polish Society of Agricultural Engineering, ISBN 978-83-935020-8-0, 108 pp.

2) Symposium Organization

- Scientific symposia implemented as part of the project: "Innovative Impact of Techniques, Technology, and IT Management Support on Production Efficiency on Organic Farms," Information Bulletin, Publishing House of the University of Agriculture in Krakow, No. 1(87), 2014, pp. 32-33

3) Development of study programs for subjects:

- Organic production systems
- Warehouse management
- Logistics services
- Logistics systems
- Mechanization of crop production
- Mechanization of animal production

4) Organization of workshops and training seminars for students

- Academic workshop on "Precision Agriculture and Agriculture 4.0 – Technical and Technological Solutions", 2025.
- Lecture and workshop on "Certification of Organic Production", 2024.
- Training on "Occupational Safety in Agriculture, with Particular Emphasis on the Safe Operation of Machinery and Livestock", 2024.
- Training seminar on "Safe and Responsible Use of Plant Protection Products", 2022.
- Organization of a training seminar on "Good Plant Protection Practice", led by the Institute of Horticulture in Skierniewice, 2021.

5) Selected teaching training

- Workshops for Young Scientists – 2025
- Pest monitoring and signaling in integrated crop protection, tools, methods, and methods for proper implementation – 2025
- Certificate of completion of a trainer's course authorizing the holder to conduct classes using the Epicor WMS system – 2023
- Certificate of completion of a trainer's course authorizing the holder to conduct classes using the Epicor ERP system – 2022

6) Participation in a foreign exchange under the Erasmus+ programme

- Slovakia, Nitra, Slovak University of Agriculture in Nitra, 2025

- Lithuania, Kaunas, Vytautas Magnus University, 2025
- Slovakia, Zvolen, Technical University in Zvolen, 2024

7) International research and teaching internships

- Research and teaching internship as part of the project "Improving the qualifications and competencies of teaching staff and doctoral students to enhance the quality of teaching at the University of Agriculture in Krakow," Czech University of Life Sciences Prague – 2025
- Research and teaching internship implemented as part of the project "Innovative program for the strategic development of the university" – SPU Nitra, Slovakia – 2022

8) Awards

2020 - Medal of the National Education Commission

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Not applicable

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

My qualifications and competencies are confirmed by completed postgraduate studies, as well as numerous international and national accredited training courses and certificates.

In the area of academic supervision, I actively supervise doctoral dissertations and regularly participate as a reviewer in the evaluation of doctoral and habilitation work, also serving as an expert in the evaluation of doctoral candidates.

My promotional and organizational activities include active participation in numerous international conferences and work on university collegial bodies, as well as on organizing committees for conferences and knowledge competitions.

Postgraduate Studies and Selected Trainings

- Postgraduate Studies "Research Management and Commercialization of Research Results", University of Lodz
- Postgraduate Studies "Logistics", Warsaw University of Life Sciences
- Training "Negative Program Evaluations by the Polish Accreditation Committee (PKA) from 2020-2024"
- Training "How to Prepare a Scientific Article Using AI? A Guide to the Comprehensive Procedure"
- Training "GenAI in Education – From Basics to Practical Application"
- Application of Artificial Intelligence (AI)
- "PRINCE2 Foundation Examination" Certificate
- Accredited PRINCE2 Foundation Training
- KS Automotive "Plant Simulation" Certificate

Participation in international conferences

- 9th International Conference on Trends in Agricultural Engineering TAE 2025– 17-19.09.2025 r. Praga Czechy
- ICAACS 2024: 18. International Conference on Agriculture, Agronomy and Crop Sciences, 25-26.03.2024, Paryż, Francja
- XII International Scientific Congress “Agricultural Machinery’2024”, 26-29.06.2024, Varna, Bułgaria
- XXVIII International Scientific Conference. Engineering of Environment Protection. TOP 2024. 28 – 30.10. 2024. Technical University in Zvolen
- ”TECHNOFORUM 2023” New Trends In Machines And Technologies For Biosystems, 7-9.06.2023, Vintop Karkó, Búč
- XI International Scientific Congress Agricultural Machinery, 28.06 – 01.07.2023, VARNA, BULGARIA
- XII. International Scientific Conference: Mobile Energy Resources - Hydraulics - Environment - Ergonomics of Mobile Machines., 18 - 20.09.2023, Dudince, Słowacja
- International Scientific Conference - "Perspectives in European Agricultural Machinery and Robotics" - Lednice Czechy; 2021 r.
- International Scientific Conference - "Creating a platform to address the techniques used in creation and protection of environment and in economic management of water in the soll" - Brno, Czechy; 2021 r.
- International Scientific and practical forum entitled: "Theory and Practice of Agro-Industrial Complex and Rural Territories Development" - Lwów; 2021 r.

Selected organizational activities, including those related to doctoral students

External expert in mechanical engineering for the mid-term evaluation of doctoral students at the University of Life Sciences in Lublin

- Reviewer of 7 doctoral theses and 2 habilitation theses
- Supervisor of 2 doctoral theses in progress
- Juror of the Agricultural Knowledge Olympiad
- Juror of the Young Agricultural Producers Olympiad
- Juror of the University-wide Session of Science Clubs
- Member of the Organizing Committee of the annual Winter Schools in the "Scientific, Technical, and Organizational Progress in Agriculture" series
- Member of the Organizing Committee of the "Contemporary Agricultural Engineering - Research and Applications" Conference
- Member of the Organizing Committee of the "Modern Technologies in Agriculture" Conference
- Member of the Senate Committee for Teaching at the University of Life Sciences in Kraków
- Member of the Senate of the University of Life Sciences for the 2020-2024 term
- Member of the "Mechanical Engineering" Discipline Council

Wersja językowa angielska	
Imię i nazwisko Paweł Kielbasa	
Academic degree: <i>Habilitated Doctor (Dr hab.)</i> Field of science: <i>Agricultural Sciences (currently: Engineering and Technological Sciences)</i> Scientific discipline: <i>Agricultural Engineering (currently: Mechanical Engineering)</i> Year of degree/title awarded: 2011	
Wykaz zajęć i godzin zajęć prowadzonych na ocenianym kierunku Conducting scientific research within the discipline of mechanical engineering, development trends of the discipline, and their impact on the technological advancement of selected industrial sectors (seminar, 6 hours).	
Charakterystyka dorobku naukowego ze wskazaniem dziedzin/dyscyplin naukowych, w której dorobek się mieści (do 600 znaków) w tym pozyskiwanie grantów i kierowanie projektami finansowanymi z grantów. The scientific output is affiliated with the discipline of mechanical engineering (within the field of engineering and technological sciences) and encompasses mechanics and operation of machinery, design and automation of devices, strength and durability analyses, as well as energy-related issues. This includes research on working resistances of tools, efficiency of machines, and technical systems. The conducted studies integrate classical mechanics with applications in agriculture and industry. Head of the PCA-accredited Laboratory (No. AB 1698), principal investigator of one and researcher in seven NCBiR projects. Co-author of five patents, four books, and 253 scientific publications, including 133 indexed in the Scopus database.	
Wykaz co najwyżej 10 najważniejszych osiągnięć naukowych (publikacji/patentów/projektów badawczych/nagród) z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat)	
1) Award of First Place in the Nationwide Competition of the Association of Polish Mechanical Engineers and Technicians for the “Best Technical Achievement of 2018” in the category of scientific and research works and stands. 2) 2015–2018, Project PBS3/A8/34/2015 entitled: “Functional model of an automated device with a vision system for scarification and assessment of acorn viability based on automatic recognition of the topography of mummification changes.” Project co-financed by the National Centre for Research and Development (NCBiR) – research team member. 3) 2018–2020, Application No. POIR.04.01.02-00-0022/18, National Centre for Research and Development, entitled: “Development of technology and launch of production of mineral flours manufactured from waste of rock raw material mining and professional power engineering.” Contractors: Hugo Kołłątaj University of Agriculture in Kraków, Midar Ltd. – research team member. 4) 2021–2023, Application No. POIR.04.01.02-00-0022/18: “A team of autonomous anticipatory robots for strawberry harvesting.” Contractors: Hugo Kołłątaj University of Agriculture in Kraków, AMPLUS Ltd., Progress and Business Foundation – research team member. 5) 3–5 June 2025, Gold Medal of the 18th International Invention and Innovation Show INTARG® for the Strawberry Harvesting Robot, along with the “HIGH TRL AWARD” statuette. 6) Kielbasa P., Juliszewski T., Kurpaska S., Special Issue Reprint on the Engineering of Smart Agriculture. Applied Sciences, MDPI, 2023, ISBN 978-3-0365-9496-5 (Hbk), ISBN 978-3-0365-9497-2 (PDF), doi: 10.3390/books978-3-0365-9497-2. 7) Kielbasa P., Pysz P., 2025. Effect of geo-radar signal processing method on the degree of reflection of soil cohesion. Przegląd Elektrotechniczny, No. 2, pp. 76–79, doi: 10.15199/48.2025.02.19, Vol. 101, No. 2/2025. 8) Kielbasa P., Drózd T., Miernik A., Pysz P., 2025. Application of pulsed electric field technology and cold plasma for the modification of biological substances parameterized by the single-photon counting method. In: Contemporary Problems of Production Engineering, pp. 63–87, Kraków 2025, PTIR-WIR, 192 pp., ISBN 978-83-64377-65-5. 9) Danielak M., Borova O., Kielbasa P., Gwiżdż J., Gierz Ł., 2025. Detection of production discontinuities in the extrusion process based on current signature using a discrete wavelet transform. Systems Science & Control Engineering, Taylor & Francis, 2025, Vol. 13, No. 1, Article 2580053, doi: 10.1080/21642583.2025.2580053. 10) Tylek P., Szewczyk G., Kormanek M., Walczyk J., Sowa J., Pietrzykowski M., Woś B., Kielbasa P., Juliszewski T., Tadeusiewicz R., Adamczyk F., Danielak M., Wojciechowski J., Szczepaniak J., Szychta M., Szulc T., 2023. Design of a planting module for an automatic device for forest regeneration. Journal of Forest Engineering, Vol. 44, p. 14, doi: 10.5552/crojfe.2023.1722.	
Charakterystyka doświadczenia i dorobku dydaktycznego (do 600 znaków). Kompetencje w zakresie opieki naukowej lub artystycznej	

I have been conducting teaching activities since 2000. In addition, I teach within the Doctoral School as well as for students of the Erasmus programme. I have supervised 4 awarded PhD theses, 85 Master's theses, and 109 Bachelor's/Engineering theses, and have participated in 703 diploma examination committees. Until 2016, I served as Vice-Dean for Education and Student Affairs at the Faculty of Production and Power Engineering, Chair of the Faculty Committee for Quality of Education, author of the study entitled "Internal System of Quality Assurance in Education", as well as a member of the Senate Committee for Education and Student Affairs and the University Team for Quality of Education. I conduct classes in both Polish and English.

Wykaz co najwyżej 10 najważniejszych osiągnięć dydaktycznych z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat), np. autorstwo podręczników, materiałów dydaktycznych, wdrażane innowacje dydaktyczne/nagrody uzyskane przez studentów nad którymi nauczyciel sprawował opiekę naukową/prowadzenie zajęć w języku obcym, w tym w związku z mobilnością naukowca, opieka nad kołem naukowym, inne

- 1) Faculty positions held: Chair of the Faculty Recruitment Committee, and member of the Faculty Committee for Awards and Distinctions as well as the Faculty Electoral Committee. Co-creator and administrator of the faculty IT system for generating and verifying course description cards; co-creator and administrator of an innovative faculty IT system for mapping the scientific output of faculty staff to programme learning outcomes; co-creator and administrator of the faculty IT system for generating partial and final assessments of intended learning outcomes; co-creator and administrator of the faculty IT system for the automated selection of diploma thesis topics and supervisors.
- 2) Co-author of the successful funding application for financial support for basic organizational units of higher education institutions (or institutions without such units) in the field of implementation of quality assurance systems and the National Qualifications Framework (2012), for the Agricultural and Forest Engineering Bachelor's degree programme.
- 3) Co-author of the innovative study programme (programme learning outcomes and curriculum): Biosystems Engineering, first- and second-cycle degree programmes.
- 4) Walczykova M., Kielbasa P., Zagórda M., 2016. Acquisition and Use of Information in Precision Agriculture. Polish Society of Agricultural Engineering – Monograph. ISBN 978-83-64377-03-7.
- 5) Adamczyk F., Frąckowiak P., Jabłoński M., Juliszewski T., Kielbasa P., Piłat A., Szaroleta M., Szczepaniak J., Tadeusiewicz R., Tylek P., Walczyk J., 2018. Acorn Scarification Machine with Identification of Pathological Changes. PIMR, Poznań – Monograph. ISBN 978-83-950733-0-4.
- 6) Adamczyk F., Szczepaniak J., Szaroleta M., Tylek P., Walczyk J., Juliszewski T., Kielbasa P., Jabłoński M., Piłat A., Tadeusiewicz R., Fajfer J., 2018. Acorn Gripper – Course of Structural Modifications. In: Operation of Agricultural and Forest Machinery – Scientific Research and Teaching. PIMR, Poznań – Monograph. ISBN 978-83-940788-9-8.
- 7) Pacholski L., Kałkowska J., Kielbasa P., 2019. Ergonomics in the Face of Challenges of Mass Production and Globalization. Tadeusz Kościuszko Kraków University of Technology – Monograph. ISBN 978-8365991911.
- 8) Completed training course entitled "Prevention of Risky and Self-Destructive Behaviours" organized by the Educational Competence Development Centre in Warsaw, 17 November 2025.
- 9) 2018–2020, participant in the project "University of Agriculture – OPEN SPACE FOR YOU" No. POER.03.03.00-00-M015/16, implemented under the Operational Programme Knowledge Education Development (PO WER), Priority Axis III "Higher Education for the Economy and Development", Action 3.3 "Internationalization of Polish Higher Education", financed by the National Centre for Research and Development.
- 10) 2025 – scientific supervision of a scholarship holder under the KRASP and Elsevier project aimed at strengthening the scientific potential of Ukrainian doctoral students and researchers.

Opis doświadczenia zawodowego w powiązaniu z celami kształcenia, efektami uczenia się zakładanymi dla ocenianego obszaru oraz treściami programowymi (do 600 znaków)

Member of the Ergonomics Commission of the Polish Academy of Arts and Sciences (PAU) (term 2018–2021), the Ergonomics Commission of the Kraków Branch of the Polish Academy of Sciences (PAN) (term 2019–2022), the Polish Society of Agrophysics, the Polish Society of Agricultural Engineering, the Polish Scientific Film Association, the Polish Ergonomics Society, and the Polish Society for the Application of Electromagnetism. Topical Editor in the field of Agricultural Engineering for the journal Technika Rolnicza Ogrodnicza Leśna (Agricultural, Horticultural and Forest Engineering), and reviewer for several scientific and professional journals indexed in JCR and SCOPUS. Guest Editor of the Special Issue Engineering of Smart Agriculture in the journal Applied Sciences.

Podnoszenia kwalifikacji i kompetencji zarówno w zakresie własnego rozwoju naukowego lub artystycznego, jak i opieki naukowej lub artystycznej nad doktorantami oraz działalność promocyjna i organizacyjna (do 600 znaków)

2025 – completion of a scientific research internship at the Institute of Electrical Engineering Systems, Lodz University of Technology, aimed at enhancing competencies in conducting research related to technologies used in the development of textronic sensors, with particular emphasis on thin electroconductive layers. Since 2023 – membership and active participation in the Polish Committee for Standardization, Technical Committee No. 78 for Industrial Electrothermics, as well as involvement in international standardization bodies in this field. 2018 – Erasmus+ internship in Ukraine, focused on developing competencies in the use of electromagnetic fields for the separation of rapeseed seeds. 2015 – internship in Brno, aimed at expanding didactic competencies in greenhouse production technologies.

Name and surname: Wojciech Jagusiak
Academic title/degree: professor Field: Agricultural Sciences Discipline: Animal science and fisheries Year of obtaining the title/degree: 2010
<i>List of classes and hours taught in the assessed field</i> <i>Specjalistyczne warsztaty statystyczne – 15h</i>
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects</i> The academic achievements fall within the discipline of Animal Science and Fisheries. According to the Scopus database, there are currently 50 publications cited 799 times across 712 documents, with a Hirsch index of 12. The principal research interests concern broadly defined population genetics, with a particular focus on the estimation of breeding values in animals, especially dairy cattle. The research is conducted in collaboration with institutions such as the National Research Institute of Animal Production, the Genetic Center of the Polish Federation of Cattle Breeders and Dairy Farmers, as well as Interbull and EuroGenomics. A second major line of research, carried out in cooperation with the Department of Animal Nutrition and Fisheries, addresses issues related to ketosis in dairy cows. The ongoing projects are primarily commissioned studies aimed at estimating genetic parameters and developing systems for the evaluation of breeding values in dairy cattle.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Bauer, E., & Jagusiak, W. (2025) . Prediction of ketosis using radial basis function neural network in dairy cattle farming. Preventive Veterinary Medicine, 235, 1–6. https://doi.org/10.1016/j.prevetmed.2024.106410 2) Otwinowska-Mindur, A., Ptak, E., Jagusiak, W. , & Zarnecki, A. (2025). Genetic parameters for milk production traits of Simmental cows with random regression test-day model. Animal, 19, Article 2. https://doi.org/10.1016/j.animal.2024.101395 3) Pawlak, K., Bojarski, B., Jagusiak, W. , Wojnar, T., Nieckarz, Z., Arent, Z., Ludwiczak, M., & Lasko, M. (2025). An 1800 MHz Electromagnetic Field Affects Hormone Levels, Sperm Quality, and Behavior in Laboratory Rats (Rattus norvegicus). Applied Sciences-Basel, 15, Article 9. https://doi.org/10.3390/app15095160 4) Kotlarz, K., Mielczarek, M., Biecek, P., Wojdak-Maksymiec, K., Suchocki, T., Topolski, P., Jagusiak, W. , & Szyda, J. (2024). An Explainable Deep Learning Classifier of Bovine Mastitis Based on Whole-Genome Sequence Data—Circumventing the p>>n Problem. International Journal of Molecular Sciences, 25, Article 9. https://doi.org/10.3390/ijms25094715 5) Jagusiak, W. , Ptak, E., Otwinowska-Mindur, A., & Żarnecki, A. (2023). Genetic relationships of body condition score and locomotion with production, type and

fertility traits in Holstein-Friesian cows. *Animal*, 17, Article 6.
<https://doi.org/10.1016/j.animal.2023.100816>

- 6) Kowalski, Z., Sabatowicz, M., Van Saun, R. J., Młoczek, W., **Jagusiak, W.**, Spanghero, M., & Dechow, C. D. (2023). Association between hyperketolactia and production in early-lactating dairy cows. *Journal of Dairy Science*, 106, Article 12.
<https://doi.org/10.3168/jds.2022-23081>
- 7) Bauer, E., & **Jagusiak, W.** (2022). The Use of Multilayer Perceptron Artificial Neural Networks to Detect Dairy Cows at Risk of Ketosis. *Animals* 12, Article 3.
<https://doi.org/10.3390/ani12030332>
- 8) Otwinowska-Mindur, A., Ptak, E., **Jagusiak, W.**, & Żarnecki, A. (2022). Estimation of Genetic Parameters for Female Fertility Traits in the Polish Holstein-Friesian Population. *Animals*, 12, Article 12. <https://doi.org/10.3390/ani12121485>
- 9) Jakimowicz, M., Szyda, J., Żarnecki, A., **Jagusiak, W.**, Morek-Kopeć, M., Kosińska-Selbi, B., & Suchocki, T. (2022). Genome-Wide Genomic and Functional Association Study for Workability and Calving Traits in Holstein Cattle. *Animals*, 12, Article 9.
<https://doi.org/10.3390/ani12091127>
- 10) Kowalski, Z., Sabatowicz, M., Van Saun, R. J., Młoczek, W., **Jagusiak, W.**, Spanghero, M., & Dechow, C. D. (2023). Association between hyperketolactia and production in early-lactating dairy cows. *Journal of Dairy Science*, 106, Article 12.
<https://doi.org/10.3168/jds.2022-23081>

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Since the beginning of my employment at the University of Agriculture in Krakow (formerly the Agricultural Academy), I have conducted courses for both full-time and part-time students on topics related to the application of statistics and information technology in agriculture, as well as genetics and animal breeding. After joining the University, I completed a pedagogical training course, followed later by several specialized courses in linear modeling, modern breeding methods, and dairy herd management, taught by distinguished experts from the University of Guelph and Uppsala University.

As an experienced academic, I also completed training in the use of the Statistical Analysis System (SAS), which I now apply extensively in both teaching and research activities. I have supervised several master's students and three doctoral candidates.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1) 2021 przygotowanie materiałów i wdrożenie nowego programu dla przedmiotu Metodyka i Analiza Doświadczeń dla kierunku Etologia i Psychologia Zwierząt

- 2) 2022 przygotowanie materiałów i wdrożenie nowego programu dla przedmiotu Specjalistyczne Warsztaty Statystyczne w Szkole doktorskiej
 - 3) 2023 modyfikacja programu i przygotowanie materiałów dla przedmiotu Metodyka i Planowanie Doświadczeń w Wydziale Biotechnologii i Ogrodnictwa
 - 4) Przygotowanie i wygłoszenie wykładów w ramach szkoleń organizowanych przez PFHBiPM
- 1) 2021 – Development of instructional materials and implementation of a new curriculum for the course Methodology and Analysis of Experiments in the field of Ethology and Animal Psychology.
 - 2) 2022 – Development of instructional materials and implementation of a new curriculum for the course Specialized Statistical Workshops offered within the Doctoral School.
 - 3) 2023 – Revision of the curriculum and preparation of instructional materials for the course Methodology and Experimental Design at the Faculty of Biotechnology and Horticulture.
 - 4) Preparation and delivery of lectures as part of training programs organized by the Polish Federation of Cattle Breeders and Dairy Farmers (PFHBiPM).

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

The specific nature of my research necessitates the ability to process large datasets and, consequently, proficiency in the use of appropriate software and statistical packages. A thorough understanding of statistical and mathematical methods, along with the capability to apply them effectively in data analysis, is of fundamental importance in my research area. The experience gained through my scientific work directly translates into the capacity to design and deliver practical, research-oriented curricula in statistics and experimental design, thereby enabling students to develop competencies essential for their future academic and professional endeavors.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

During my tenure at the University of Agriculture in Krakow, I completed a pedagogical training program as well as numerous professional development courses that enhanced my teaching practice, both in the area of instructional methodology and in the substantive refinement of course curricula. For a period of three years, I served as the Plenipotentiary of the Director of the Doctoral School for Quality Assurance in Education.

Imię i nazwisko: Anna Hrabia
Academic title/degree: professor Field: Agricultural Sciences Discipline: Animal physiology and endocrinology Year of obtaining the title/degree: 2019
<i>List of classes and hours taught in the assessed field</i> DOKTOR SEMINAR - Zootechnics and fisheries 15h
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> My scientific achievements relate to the fields of agricultural sciences (animal sciences and fisheries, and veterinary medicine), as well as to the fields of exact and natural sciences (biological sciences). According to the SCOPUS database: my Hirsh index = 22, number of publications = 83, number of citations = 1265. My main research focuses on the endocrine regulation of the reproductive system of female domestic birds, particularly the role of growth hormone and prolactin in the local regulation of ovarian and oviduct function, including steroidogenesis, proliferation, apoptosis, and angiogenesis. Furthermore, I study the role of metalloproteinases in the remodeling of animal reproductive tissues, as well as the role of aquaporins and intercellular junction proteins in the avian reproductive system. Research in this field is conducted at the molecular and biochemical levels.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Individual or team awards from the Rector of the University of Agriculture in Krakow for scientific achievements in the years: 2005, 2007, 2009, 2010, 2012, 2015, 2017, 2018, 2021, 2022, 2023, 2024, 2025, and inclusion on Stanford/Elsevier's "Top 2%" list of the world's most influential scientists for 2022 and 2024. 2) Frydrych K., Hrabia A. (2025) . „Tissue regression-related alterations in the expression of adherens and tight junction proteins in the hen ovary”. Int. J. Mol. Sci., 26:09451. 3) Frydrych K., Wolak D., Hrabia A. (2024) . „Tamoxifen-induced alterations in the expression of connexin 43 in the chicken ovary”. Theriogenology, 229:8-15. 4) Grzegorzewska A.K., Wolak D., Hrabia A. (2024) . „Effect of tamoxifen treatment on catalase (CAT) and superoxide dismutase (SOD) expression and localization in the hen oviduct”. Theriogenology, 214:73-80. 5) Hrabia A. , Wolak D., Sechman A., Scanes C.G. (2023) . “Response of the hen ovary to eCG treatment: Insight into morphology and expression of genes related to steroidogenesis and vitellogenesis”. Anim. Reprod. Sci., 252:107250.

- 6) **Hrabia A.**, Kamińska K., Socha M., Grzesiak M. (2023). „Vitamin D3 receptors and metabolic enzymes in hen reproductive tissues”. Int. J. Mol. Sci., 24:17074
- 7) **Hrabia A.**, Miska K.B., Schreier L.L., Proszkowiec-Węglarz M. (2022). „Altered gene expression of selected matrix metalloproteinase system proteins in the broiler chicken gastrointestinal tract during post-hatch development and coccidia infection”. Poult. Sci., 101: 101915.
- 8) **Hrabia A.**, Wolak D., Kowalik K., Sechman A. (2022). “Alterations in connexin 43 gene and protein expression in the chicken oviduct following tamoxifen treatment”. Theriogenology, 188: 125-134.
- 9) **Hrabia A.** (2021). “Matrix Metalloproteinases (MMPs) and inhibitors of MMPs in the avian reproductive system: an overview”. Int. J. Mol. Sci., 22(15):1-14. Invited paper.
- 10) Principal investigator: Grant of the Ministry of Science and Higher Education (KBN) no.: 2 P06D 034 28 entitled: "Participation of growth hormone in the regulation of chicken (*Gallus domesticus*) ovary development" (2005-2008); Grant of the National Science Centre no.: 2011/01/B/NZ4/63665 entitled: "Molecular mechanisms of avian oviduct development and remodeling" (2011-2014); Grant of the National Science Centre no.: UMO-2015/19/B/NZ9/01356 entitled: "Participation of metalloproteinases in the chicken (*Gallus domesticus*) ovary remodeling" (2015-2019). Scientific supervision of the PRELUDIUM grant managed by a PhD student: NCN Grant No. 2012/07/N/NZ4/00165 entitled: "Involvement of metalloproteinases in avian oviduct rejuvenation during a pause in laying" (2013-2015). Scientific supervision of 2 submitted PRELUDIUM grant projects (June 2025).

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I have been teaching since 2000 in the fields of Animal Science, Applied Biology, Biotechnology, Animal Bioengineering, and Animal Ethology and Psychology. These include subjects in animal biochemistry, cytobiochemistry, molecular biology, toxicology of animal reproduction and development, avian biotechnology, and the application of analytical methods in biology and biotechnology. I have also conducted English-language tutorials on the Application of antibodies in laboratory diagnostics for students participating in the ERASMUS exchange program and the Doctoral Seminar. I have supervised numerous master's, engineering, and bachelor's theses. I have reviewed over 100 theses, 5 doctoral dissertations, 2 habilitation dissertations, and 2 opinions as a member of the Habilitation Committee. Under my supervision 3 Students have earned doctoral degrees (including two doctorates with distinction), and two more are in preparation.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

Books:

- 1) **Hrabia A.**, Sechman A. (2024). Organization and functional dynamics of the avian ovary. In: Hormones and Reproduction of Vertebrates, Vol. 4 Birds, Second Edition.; Norris D.O., Lopez K.H., Eds.; Academic Press, Cambridge, MA, USA, pages 107-137.
- 2) **Hrabia A.** Chapter 35 – Reproduction in the female. In: Sturkie's Avian Physiology (Seventh Edition). 2022, pages 921-966. ISBN 978-0-12-819770-7. Imprint Academic Press, Copyright© 2022 Elsevier Inc.

Other:

- 3) Authorship or co-authorship of 12 popular science articles in the journal Polskie Drobiarstwo
- 4) Plenary lecture entitled: "Selected molecular mechanisms of structural and functional remodeling of the avian reproductive system" at the Combined Workshop of European Federation of WPSA Working Groups: WG 6 (Incubation and Fertility) and WG 12 (Physiology). Wrocław (September 18, 2023)
- 5) Member of the Team for the Evaluation of the Zootechnics and Fisheries Discipline – 2019-2022
- 6) Member of the International Committee of the International Society for Avian Endocrinology (2012-2022)
- 7) Development of curricula for several subjects
- 8) Reproductive Biology – member of the Editorial Advisory Board - 2024-2028
- 9) Society of Reproductive Biology – Vice-Chair of the Kraków branch - 2021-2024, 2024-2027

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Internships:

The 4th International Post-Graduate Course on „Poultry Management: Nutritional, Physiological and Veterinary Aspects” (November 16 – December 7, 1999) organized by the Faculty of Agricultural, Food and Environmental Quality Sciences, The Hebrew University of Jerusalem, Rehovot.

Simultaneously, a research internship with Prof. Arie Gertler in the biochemistry laboratory of the Hebrew University.

A 24-month research scholarship in Japan (Laboratory of Animal Physiology, Graduate School of Bioagricultural Science, Nagoya University, Nagoya) funded by the Japanese Society for Promotion of Science.

The course “Manipulation on mammalian and avian embryos” (November 15-26, 2004 r.) organized by the Institute of Genetics and Animal Breeding of the Polish Academy of Sciences in Jastrzębiec.

TBR internship – obtaining funds for trips related to collecting research material and establishing cooperation (autumn 2022), Popielno, IBRiZ research station.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Training:

"Why are students the way they are? – An introduction to behavioral psychology,"
February 20, 2024 (WHiBZ URK)

"Intellectual property and principles of its protection" organized by the Innovation
Center of the University of Agriculture in Krakow sp. z o.o. - November 7, 2023

"Using thin layer chromatography for rapid qualitative analysis" - October 2, 2024 -
organized by Merck

"More, in less time. Multiplexes in protein detection" - October 15, 2024 - organized by
Merck

"Small but impactful: detection of extracellular vesicles (EVs) using flow cytometry" -
October 22, 2024 - organized by Merck

Name and surname: Monika Bugno-Poniewierska
Academic title/degree: professor Field: Agricultural Sciences Discipline: Animal science and fisheries Year of obtaining the title/degree: 2014
<i>List of classes and hours taught in the assessed field</i> 15-hour seminar
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> His scientific achievements include over 390 publications, 191 of which are original works. His research findings have been presented at numerous national and international conferences, resulting in over 200 conference papers. He has co-investigated 17 projects funded by external sources (KBN, MNiSW, NCN, NCBR, ARiMR), including nine as principal investigator. According to the Web of Science Core Collection, his Hirsh index is 20, with a total of 1,617 citations, including 1,351 without self-citations.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Bugno-Poniewierska M., Jankowska M., Raudsepp T., Kowalska K., Pawlina-Tyszko K., Szmatoła T. 2024. Molecular cytogenetic screening of sex chromosome abnormalities in young horse populations. EQUINE VETERINARY JOURNAL DOI10.1111/evj.14097 2) Valera M., Karlau A., Anaya G., Bugno-Poniewierska M., Molina A., Encina A., Azor P.J., Demyda-Peyrás S. 2024. The Use of Genomic Screening for the Detection of Chromosomal Abnormalities in the Domestic Horse: Five New Cases of 65,XXY Syndrome in the Pura Raza Español Breed. Animals 2024, 14, 2560. https://doi.org/10.3390/ani14172560 3) Gabrys J., Pietras N., Kowal-Mierzwa W., Karnas E., Andronowska A., Nowak A., Kochan J., Bugno-Poniewierska M. 2024. Investigating the impact of extracellular vesicle addition during IVM on the fertilization rate of equine oocytes following ICSI. Reproductive Biology 24 (2024) 100967. 4) Sawicki S., Gurgul A., Gabryś J., Kij-Mitka B., Bochenek M., Karnas E., Podstawski Z., Długosz B., Bugno-Poniewierska M. 2024. Extracellular vesicles obtained from equine mesenchymal stem cells isolated from adipose tissue improve selected parameters of stallion semen after cryopreservation. Annals of Animal Science; DOI: 10.2478/aoas-2024-0073 5) Kij-Mitka B., Gabryś J., Kochan J., Nowak A., Szmatoła T., Prochowska S., Nizański W., Bugno-Poniewierska M. 2023. Cat presumptive zygotes assessment in relation to their development. Annals of Animal Science DOI10.2478/aoas-2023-0096

- 6) Szóstek-Mioduchowska A., Wójtowicz A., Sadowska A., Moza Jalali B., Styszewska M., Łukasik K., Gurgul A., Szmatoła T., **Bugno-Poniewierska M.**, Ferreira-Dias G., Skarzynski D.J. **2023**. Transcriptomic profiling of mare endometrium at different stages of endometrosis. Scientific Reports | (2023) 13:16263 DOI10.1038/s41598-023-43359-5
- 7) Wójtowicz A., Molcan T., Łukasik K., Żebrowska E., Pawlina-Tyszko K., Gurgul A., Szmatoła T., **Bugno-Poniewierska M.**, Ferreira-Dias G., Skarzynski D.J., Szóstek-Mioduchowska A. **2023**. The potential role of miRNAs and regulation of their expression in the development of mare endometrial fibrosis. Scientific Reports | (2023) 13:15938 DOI10.1038/s41598-023-42149-3
- 8) Gurgul A., Jasielczuk I., Szmatoła T., Sawicki S., Semik-Gurgul E., Długosz B., **Bugno-Poniewierska M.** **2023**. Application of Nanopore Sequencing for High Throughput Genotyping in Horses. Animals 2023, 13, 2227. <https://doi.org/10.3390/ani13132227>
- 9) Gabrys J., Kij-Mitka B., Sawicki S., Kochan J., Nowak A., Lojko J., Karnas E., **Bugno-Poniewierska M.** **2022**. Extracellular vesicles from follicular fluid may improve the nuclear maturation rate of in vitro matured mare oocytes. Theriogenology 188: 116-124. DOI10.1016/j.theriogenology.2022.05.022
- 10) **Bugno-Poniewierska M.**, Kij-Mitka B., Podstawski Z., Długosz B., Lasek O., Mrowiec P., Tischner M. **2022**, Characteristics of diluted-stored and post-thawed semen of Hutsul stallions. Acta Vet Hung.70(1): 51–57.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I have been teaching since 2006, initially delivering lectures at the Doctoral Program at the National Research Institute of Animal Production. Since 2010, I have been conducting lectures and workshops on genetic engineering techniques in animal biotechnology for students at the University of Agriculture in Krakow. I utilize my publishing experience in my work with students, leading diploma seminars. I have supervised 11 doctoral students (including 8 who have completed them), and over 50 master's and engineering theses for students at the University of Agriculture in Krakow, the University of Rzeszów, and the Jagiellonian University.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1) Conducting the training "Modern methods of semen analysis" SK Walewice 2021
- 2) Lectures and exercises "Chromosomal aberrations as one of the causes of fertility disorders in horses" University of Cordoba, Spain - 2021
- 3) Lectures and exercises "The application of biotechnological methods in the reproduction of farm and endangered animals" - University of the Azores - 2024
- 4) Establishing the Interfaculty Scientific Circle of Cytogeneticists 2020
- 5) Supervising the Interfaculty Scientific Circle of Cytogeneticists 2020 - 2022 and 2024 - present

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Professional experience includes long-term scientific, research, and teaching activities in the field of animal genetics and biotechnology, fully consistent with the educational objectives and learning outcomes of the discipline of animal science and fisheries. The scope of research and teaching covers cytogenetics, genetic engineering, and reproductive biotechnology, which constitute an integral part of the curriculum and support the development of students' research competencies.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (600 characters)

1. Spanish Language Course - Universidad Nacional de Colombia 2025
2. Startup School UR, Edition I, Anti-Antibiotic Animals 2021
3. Using the Microptic SCA Computerized Semen Analysis System, Spain 2021
4. Training supporting the learning process: "Why are students the way they are? - An introduction to behavioral psychology" WHiBZ 2024
5. Training in supporting students with cognitive disorders in the teaching process (2023)

Name and surname: Marcin Wojciech Lis
Academic title/degree: PhD, DSc, assoc. professor Field: Agricultural Sciences Discipline: Animal Science and Fisheries, Year of obtaining the title/degree: PhD -2001, DSc – 2014, assoc prof -2017
<i>List of classes and hours taught in the assessed field</i> 1) Supevisor of Kamil Kustra PhD Dissertation 2) Supevisor of Aleksandra Januszewska PhD Dissertation
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> The main research areas of Dr. Marcin Wojciech Lis, DSc, assoc. prof (Scopus ID: 16031752700; ORCID: 0000-0002-8609-572X) falls primarily in the disciplines of Animal Science and Fisheries (75%) and Food and Nutrition Technology (25%). According to REPO, science work includes: 194 publications, IF 120.9, Ministry of Science and Higher Education 4341 points; WoS h index 11; From 2020 to 2025, Marcin Lis was the co-author of 3 patent applications and the head of R&D under POIR.01.01.01.-00-1010/17 entitled "Innovative Solutions for Duck Breeding Technology" (implementation 2019-2022) and 6 commissioned studies. Participant in 1 Rural Development Programme (RDP) project and 4 Biodiversity and Environmental Protection (BP) projects. Awarded the Rector's Scientific Prize, 1st degree (for 2022) and 2nd degree (for 2021); 3rd degree (for 2025). Main research of Marcin Lis is focused on the incubation and embryonic development of birds (poultry), including chick behaviour during the pre-breeding period, as well as animal welfare.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Trela M, Sołtysik W, Kustra K, Januszewska A, Lis MW. Developmental stages of the Pekin duck (<i>Anas platyrhynchos</i> f. domestica) and the Mulard duck in artificial incubation. <i>Poult Sci.</i> 2025;104:105132. https://doi.org/10.1016/j.psj.2025.105132. 2) Kazimierczak J, Pospiech K, Sowińska P, Pękała A, Borówka P, Wójcik EA, Marciniak B, Lis MW, Strapagiel D, Dastyh J. A rapid detection of Avian Pathogenic <i>Escherichia coli</i> (APEC) strains based on minimal number of virulence markers identified by whole genome sequencing. <i>BMC Microbiol.</i> 2025 25:147. https://doi.org/10.1186/s12866-025-03861-4. 3) Węsierska E, Micek P, Adamski MG, Gondek K, Lis M, Trela M, Wojtysiak D, Kowal J, Wyrobisz-Papiewska A, Kunstman G, Mosiołek S, Smoroń K. Changes in the intestinal microbiota of broiler chicken induced by dietary supplementation of the diatomite-bentonite mixture. <i>BMC Vet Res.</i> 2025; 21:13. https://doi.org/10.1186/s12917-024-04439-4.

- 4) Trela, M., Januszevska, A., Kawecki, D., & Kustra, K. (2025). A conventional hatchery vs. "on-farm" hatching of ducks in terms of microclimatic conditions and hatchability parameters-preliminary research. *Journal of Applied Poultry Research*, 100612.
- 5) Kustra K, Trela M, Hejdysz M, Kaczmarek S, Węsierska E, Babuszkiewicz M, **Lis MW**. A conventional hatchery vs "on-farm" hatching of broiler chickens in terms of microbiological and microclimatic conditions. *Animal*. 2024 18:101223. <https://doi.org/10.1016/j.animal.2024>
- 6) Tombarkiewicz B, Trzeciak K, **Lis MW**, Makulska J, Pawlak K, Bojarski B. The effect of methionine and folic acid administered in ovo on the blood biochemical parameters of chickens (*Gallus gallus domesticus*). *Poult Sci*. 2024;103 :103731. <https://doi.org/10.1016/j.psj.2024.103731>.
- 7) Łapiński S, Niedbała P, Markowska K, Rutkowska A, **Lis MW**. The effects of age, size, and cage complexity on the behaviour of farmed female chinchillas (*Chinchilla lanigera*). *Sci Rep*. 2023;13(1):6108. <https://doi.org/10.1038/s41598-023-32516-5>.
- 8) Nowaczewski S, Babuszkiewicz M., Szablewski T, Stuper-Szablewska K., Cegielska-Radziejewska R., Tomczyk Ł., Kaczmarek S., Sechman A., **Lis M.W.**, Kwaśniewska M, Racewicz P., Jarosz Ł., Ciszewski A., Nowak T., Hejdysz M* (2022) Effect of weight and storage time of broiler breeders' eggs on morphology and biochemical features of eggs, embryogenesis, hatchability, and chick quality. *Animal* 2022, 16.7: 100564
- 9) Bojarski B, Chmurska-Gąsowska M., Gałuszka A, Kozłowska A, Kotula-Balak M, Trela M., Kirpaniova A., Kustra K., Stonawski B, Łapiński S, Arent Z., Lis M.W.* (2022) Effects of embryonic cadmium exposure on erythrocyte indices and morphology in newly hatched *Gallus gallus domesticus* chicks *Poultry Science* 101, 101862, <https://doi.org/10.1016/j.psj.2022.101862>
- 10) KOSECKA-STROJEK M., TRZECIAK J. , HOMA J. TRZECIAK K.B., WLADYKA B., TRELA M., MIĘDZOBRODZKI J, LIS M.W.* (2021) Effect of *Staphylococcus aureus* infection on the heat stress protein 70 (HSP70) level in chicken embryo tissues *Poultry Science*, 100:101119 <https://doi.org/10.1016/J.PSJ.2021.101119>

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

Dr. Marcin Lis, a professor at URK, has been teaching since 1997 (as a doctoral student) and since 2003 as a lecturer in the fields of animal science, biotechnology, animal bioengineering, and veterinary medicine. Topics include animal hygiene and animal welfare, veterinary prevention, poultry production, and incubation technology and the use of avian embryo models in scientific research.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1) Supervisor of the master's thesis of Ms. Weronika Sottysik, MSc. Eng., entitled "Determination of Critical Periods in the Embryonic Development of the Domestic

Duck (*Anas platyrhynchos f. domestica*) in Artificial Hatching," which won 3rd place in the PB WPSA competition for the best master's thesis in the field of poultry farming and 3rd place in the competition for the best Master's thesis of the PTZ Poultry Section.

2) Teaching classes in English during the Erasmus+ program at Selcuc University in Konya - 2023 (Turkey).

3) Teaching classes on poultry incubation technology, chicken embryology, and technological errors as part of the "Poultry Diseases" Specialization at the National Veterinary Institute in Puławy, 2022 and 2024 editions.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Dr. hab. Marcin Lis, prof. URK, has 30 years of experience as an academic teacher and experimenter, supported by ongoing cooperation with poultry farms and hatcheries.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

1) Training: Communication with people with disabilities (including cognitive, mental, and sensory disabilities), October 13, 2025, University of Agriculture in Krakow

2) Chairman of the Organizing Committee of the 35th Symposium of the Polish Branch of the World Poultry Science Association (PB WPSA), Krakow, September 8-10, 2025

3) Chairman of the Organizing Committee of the "VII. International Congress on Domestic Animal Breeding Genetics and Husbandry- 2023 (ICABGEH-23)"

4) Scientific supervisor on behalf of the entrepreneur ANIMPOL for the implementation of the implementation doctorate DWD/7/0074/2023 entitled "Development of a method for extending the hatchability of domestic goose eggs."

Applicant: Poznań University of Life Sciences

5) Lecturer at Trade Fairs and Industry Conferences, including: Agrotech Kielce Fair - 2022; Ferma Bydgoszcz Fair 2023; Hatchery Summit-Poultry Welfare Industry Conference 2025; AgroFarma Fair -Ptak Expo Warsaw 2025

Name and surname: Zygmunt Kowalski
Academic title/degree: professor Field: Agricultural Sciences Discipline: Animal science and fisheries Year of obtaining the title/degree: 2009
<i>List of classes and hours taught in the assessed field</i> Dissemination of research results (lecture – 4 hours, practical classes – 8 hours) Applying for research funding (seminar – 8 hours, practical classes – 6 hours) Writing scientific publications (practical classes – 4 hours)
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> The scientific achievements are related to the discipline of animal science and fisheries (within the field of agricultural sciences) and veterinary science. The research focuses on animal nutrition, particularly on nutritional prevention of metabolic disorders in dairy cows and supporting the immune system in calves. The studies have been and are currently funded by research projects (NCN, KBN, MNiSW), in which I have acted as principal investigator for seven projects and co-investigator for eleven. In addition, I supervise numerous industry-commissioned research projects funded by the feed industry and other agriculture-related companies. Some of these studies are carried out for international partners, including institutions from France and Germany. I am also the supervisor of a “Doctorate Implementation” (Industrial PhD) project.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Motyka D., Jasielczuk I., Pokorska J., Grzegorzczak J., Szmatoła T., Kowalski Z. , Gurgul A., 2025. Genetic and physiological influences on the rumen microbiome and metabolic status in holstein cows. J. Dairy Sci., 108,10869-10887. 2) Baba M.K., Flaga J., Kowalski Z.M. , 2024. Effect of addition of a mixture of ethyl esters of polyunsaturated fatty acid of linseed oil to liquid feed on performance and health of dairy calves. Animals,14, 1048. 3) Kowalski Z.M. , Sabatowicz M., Jagusiak W., Młócek W., Van Saun R.J., Spanghero M., Dechow C.D., 2023. Association between hyperketolactia and production in early-lactating dairy cows J. Dairy Sci., 106, 9532-9551. 4) Kowalski Z.M. , Sabatowicz M., Barć J., Jagusiak W., Młócek W., Van Saun R.J., Dechow C.D., 2021. Characterization of ketolactia in dairy cows during early lactation. J. Dairy Sci., 104, 12800-12815. 5) Spanghero M., Kowalski Z.M. , 2021. Updating analysis of N balance experiments in dairy cows. J. Dairy Sci., 104, 7725-7737. 6) Burakowska K., Penner G.B., Flaga J., Przybyło M., Barć J., Wojciechowska-Puchałka J., Wojtysiak D., Kowalski Z.M. , Górka P., 2021. Canola meal or soybean meal as protein source and the effect of microencapsulated sodium butyrate supplementation in calf starter mixture. II. Development of the gastrointestinal tract. J. Dairy Sci., 104, 6663–6676.

- 7)** Burakowska K., Penner G.B., Korytkowski Ł., Flaga J., **Kowalski Z.M.**, Górka P., 2021. Canola meal or soybean meal as protein source and the effect of microencapsulated sodium butyrate supplementation in calf starter mixture. I. Performance, digestibility and selected blood parameters. J. Dairy Sci., 104, 6646–6662
- 8)** Górka P., **Kowalski Z.M.**, Zabielski R., Guilloteau P., 2018. Use of butyrate to promote gastrointestinal tract development in calves. J. Dairy Sci., 101, 4785–4800.
- 9)** Co-author of a method for monitoring subclinical ketosis in dairy herds – the monitoring currently covers approximately 800,000 cows per month, evaluated by the Polish Federation of Cattle Breeders and Dairy Farmers.
- 10)** Author and co-author of 126 original scientific papers; H-index: 16, citations: 1,199 (WoS).

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I've been conducting teaching activities since 1981. In addition, I teach courses at the Doctoral School and for students participating in the Erasmus program. I've supervised 5 PhD theses, 94 master's theses, and 54 engineering theses. I also lecture in postgraduate and specialization programs for veterinary doctors (UW-M Olsztyn, UP Wrocław, and the PIW-PIB Puławy). I organize scientific conferences for practitioners (farmers, nutrition advisors, and veterinarians) aimed at disseminating scientific knowledge. I've also been an invited lecturer at scientific and professional conferences held both in Poland and abroad (e.g. Italy, the Czech Republic, and Turkey). I conduct classes in Polish and English.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1)** Author of several chapters in the academic textbook Animal Nutrition and Feed Science, Vol. 1 and 2 (ed. D. Jamroz), PWN Scientific Publishers, Warsaw, 2015 (revised and expanded edition).
- 2)** Author of a chapter in the academic textbook Goat Nutrition in Breeding, Rearing and Use of Goats (ed. J. Wójtowski), University of Life Sciences Press, Poznań, 2021 (3rd updated and revised edition).
- 3)** Editor and translator of the Polish edition of the French textbook Ruminant Nutrition (ed. R. Jarrige), 1993.
- 4)** Co-author of a chapter in the book Nutritional Recommendations for Ruminants and Feed Nutritional Value Tables (Strzetelski J.A., Brzóska F., Kowalski Z.M., Osiegtowski S.), Patronus Animalium, Foundation of the National Research Institute of Animal Production, Kraków, 2014, 392 pp.
- 5)** Lecturer within the Erasmus and Erasmus+ programmes – teaching courses for several years, including Basics of Animal Nutrition and Dairy Cattle Feeding.
- 6)** Author of original teaching programs for students of the University of Agriculture in Kraków (URK).

- 7)** Three of my former master's students have obtained the academic title of Professor of Agricultural Sciences.
- 8)** Author of the Polish version of the INRAtion software, used for formulating ruminant diets – the program is applied in teaching activities.
- 9)** Author of 540 popular science articles published in journals such as Top Agrar, Hodowla i Chów Bydła, and Hoduj z Głową – contributing to educational and outreach activities.
- 10)** Speaker at scientific seminars at the University of Milan (Italy).

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

My classes with doctoral students focus on the dissemination of scientific research results, obtaining funding for scientific research, and editing scientific publications. Both the learning objectives and the course content are closely related to my scientific achievements, my experience in securing research funding, and my leadership of research projects. Equally important is my extensive, long-standing experience in transferring knowledge to practitioners, including farmers, veterinarians, and animal nutrition advisors.

My broad cooperation with the agricultural sector justifies the statement that I possess the appropriate professional experience necessary to effectively conduct doctoral education in the aforementioned areas.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

Despite my extensive teaching experience, I continuously improve my professional qualifications through participation in major scientific conferences (EAAP, ICPD), involvement in expert groups (e.g., Elanco, IsoAces ZinPro), and international collaboration with researchers from Penn State University (USA), the University of Udine (Italy), and the Norwegian University of Life Sciences (Norway). I also take part in doctoral school conferences.

Name and surname: Zbigniew Arent
Academic title/degree: Associate Professor Field: Natural Science Discipline: Veterinary Medicine Year of obtaining the title/degree: 2018
List of classes and hours taught in the assessed field PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Veterinarian specializing in infectious diseases of animals, particularly brucellosis and leptospirosis. Gained scientific experience, among others, at the OIE Reference Laboratory for Leptospirosis, Veterinary Science Division, Agri-Food & Biosciences Institute (AFBI) in Belfast, UK, where he conducted research on the epidemiology and pathogenic mechanisms of leptospirosis. Upon returning to Poland, he headed the Center for Experimental and Innovative Medicine at the University of Agriculture in Krakow and currently serves as the Director of the University Veterinary Polyclinic. Principal investigator of research projects (AFBI Innovation, NCN OPUS17). His scientific output falls within the field of veterinary sciences, discipline: veterinary medicine. Member of numerous scientific societies.
List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years) 1. Dubniewicz, K., Pardyak, L., Gurgul, A., Jasielczuk, I., Szymatola, T., Arent, Z.J. (2025). Serovar-specific genomic features of <i>Leptospira interrogans</i> Hardjo: implications for host adaptation. <i>Frontiers in Molecular Biosciences</i>, 12, 1648097. 2. Zmudzki, J., Ostrowska, M., Arent, Z., Frant, M., Kochanowski, M., Nowak, A., Zebek, S., Kalinowski, D., Podgórska, K. (2025). Seroprevalence of equine leptospirosis in Poland (2019–2023). <i>Equine Veterinary Journal</i>. 3. Lewicka, A.J., Lyczakowski, J.J., Pardyak, L., Dubniewicz, K., Latowski, D., Arent, Z. (2025). Beyond serology: saccharide profiling enables identification of antigenically similar <i>Leptospira</i> and prompts re-evaluation of bacterial lipopolysaccharide evolution. <i>Frontiers in Molecular Biosciences</i>, 12, 1581587. 4. Kędzierska-Mieszkowska, S., Kędzierska, B., Pardyak, L., Arent, Z. (2025). Evidence for a putative regulatory system consisting of an ECF σE-type factor, LIC_12757, and a FecR-like σ factor regulator, LIC_12756, in the pathogenic spirochaetes <i>Leptospira interrogans</i>. <i>International Journal of Molecular Sciences</i>, 26(11), 4994. 5. Wójtowicz, A., Mitura, A., Bracha, U., Arent, Z., Małek, K., Wietecha-Postuszny, R. (2025). Post-mortem changes in tissue samples captured by infrared spectroscopy – studies in a rabbit model. <i>Microchemical Journal</i>, 213, 113803.

6. Kozień, L., Policht, A., Heczko, P., **Arent, Z.**, Bracha, U., Pardyak, L., Pietsch-Fulbiszewska, A., Gallienne, E., Piwowar, P., Okon, K., Tomusiak-Plebanek, A., Strus, M. (2024). PDIA iminosugar influence on subcutaneous Staphylococcus aureus and Pseudomonas aeruginosa infections in mice. Frontiers in Cellular and Infection Microbiology, 14, 1395577. <https://doi.org/10.3389/fcimb.2024.1395577>
7. Siemińska, I., **Arent, Z.** (2024). What we know about alterations in immune cells during sepsis in veterinary animals? Veterinary Immunology and Immunopathology, 274, 110804.
8. **Arent, Z.**, Gilmore, C., Pardyak, L., Dubniewicz, K., McInerney, B., Ellis, W. (2023). The serological and genetic diversity of the Leptospira interrogans Icterohaemorrhagiae serogroup circulating in the UK. Journal of Veterinary
9. Kędzierska-Mieszkowska, S., **Arent, Z.** (2023). Immunoreactivity of a putative ECF σ factor, LIC_10559, from Leptospira interrogans with sera from Leptospira-infected animals. Pathogens, 12(4), 512.
10. **Arent, Z.**, Pardyak, L., Dubniewicz, K., Płachno, B., Kotula-Balak, M. (2022). Leptospira taxonomy: then and now. Medycyna Weterynaryjna – Veterinary Medicine Science and Practice, 78(10), 489–496.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

For many years, he has been a lecturer at the Faculty of Veterinary Medicine of the University of Agriculture in Krakow, where he teaches courses in microbiology, epidemiology, and infectious diseases of animals. He serves as the coordinator of these subjects. He also conducts classes as part of postgraduate and specialist programs organized by the Main School of Veterinary Service in Warsaw and the Jagiellonian University Medical College. He served as an assistant supervisor for a PhD dissertation carried out at the Faculty of Biology, University of Gdańsk. He is the author of a chapter in an international textbook dedicated to swine disease

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. **Authorship of a textbook chapter for veterinary students and practitioners:** *Diseases of Swine*, Zimmerman Jeffrey J. [et al.] (eds.), 2019, Wiley-Blackwell, pp. 854–862, ISBN 9781119350859.
2. **Reviewer of international and national research projects** in the field of infectious animal diseases: International Foundation for Science, Sweden; National Science Centre (NCN), Poland.
3. **Reviewer of three PhD dissertations and one habilitation thesis** in the field of infectious animal diseases at faculties of Veterinary Medicine.

4. **Assistant supervisor** of the doctoral dissertation titled “*Characterization of the ClpB (Hsp100) chaperone protein derived from the pathogenic bacterium Leptospira interrogans, the etiological agent of leptospirosis*”, conducted at the Department of Biochemistry, Faculty of Biology, University of Gdańsk (2019).
5. **Trainer of veterinarians** within the project “*Strengthening Central Military Veterinary Laboratory (CMVL), India*”. OIE Twinning Project, World Organisation for Animal Health (OIE), Project No. C20140022. **Role:** Project Leader.
6. **Lecturer** in the specialization course for veterinarians in *Veterinary Laboratory Diagnostics*, Warsaw University of Life Sciences (SGGW), Warsaw, 2025.
7. **Lecturer** in the postgraduate program “*Clinical Research of Medicinal Products*”, Faculty of Pharmacy, Jagiellonian University Collegium Medicum.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

1. Regional Veterinary Inspectorate in Gdańsk (1994–2007); Head of the Serological Laboratory.
2. **Veterinary Sciences Division, Agri-Food & Biosciences Institute (AFBI), Belfast, Northern Ireland, 2007–2015.**
3. **Private veterinary practice, 1995–2001**

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

1. Participation in the session “Innovative Education in Veterinary Medicine and the History of Veterinary Medicine” (Olsztyn, September 18–20, 2024), including:
 - Modern teaching tools supporting the education of veterinary students,
 - The importance of communication and empathy in clinical teaching,
 - The role of the history of veterinary medicine in shaping professional attitudes,
 - Distance and hybrid education in undergraduate and postgraduate veterinary training.
2. European School for Advanced Veterinary Studies, Cardiology, Palma de Mallorca, Spain, June 28 – July 2, 2025.
3. The Hemodialysis Academy, UC Veterinary Medical Center San Diego, September 2024 – December 2025.

Name and surname: Małgorzata Kotula-Balak
Academic Title/Degree: Prof. Dr. Hab. Field of Natural Science Discipline: Veterinary Medicine Year of Creation: 2021
<i>List of classes and class hours in the assessed field of study</i> Biology: Lectures 10 hours/Classes 4x20 hours Cell Biology: Lectures 15 hours/Classes 4x15 hours Andrology and Artificial Insemination: Lectures 2 hours/Classes 4x6 hours
<i>Description of scientific achievements, indicating the scientific fields/disciplines in which the achievements fall (up to 600 characters), including grant acquisition and management of grant-funded projects.</i> Biological Sciences/Biology Veterinary Sciences/Veterinary Medicine Interests: The endocrine system, with particular emphasis on the male reproductive system in physiological and pathological states. Cellular, molecular, and epigenetic regulation of spermatogenesis and steroidogenesis in male mammals (including farm animals, companion animals, wild animals, and laboratory animals). The most important scientific achievements: demonstration for the first time of the presence and role of (i) estrogen synthase (aromatase) in the gonads of seasonal animals, (ii) non-classical estrogen receptors: estrogen receptor-related (ERR) and membrane estrogen receptor (GPER) in the gonads of laboratory animals, farm animals and humans with Leydig cell carcinoma, and (iii) regulatory cells - telocytes in the gonads of rodents. Projects obtained from the National Science Centre 2016/23/B/NZ4/01788 OPUS 12: Study of hormonal and molecular mechanisms of tumor development in the interstitial tissue of the male gonad (2017-2020) 2023/51/B/NZ4/00889 OPUS 26: Are cryptorchidism and carcinogenesis in the canine gonad telocyte-dependent interstitial tissue diseases? (2024-2028) Project obtained from the Ministry of Education and Science Incubator 4: Development and optimization of a protocol for determining a biochemical marker for the assessment of reproductive function in the male canine gonad for the preparation of a diagnostic immunochromatographic test (2021)
<i>A list of at most 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i>

1. Witkowski M, Duliban M, Rak A, Profaska-Szymik M, Gurgul A, Arent ZJ, Galuszka A, **Kotula-Balak M**. Next-Generation Sequencing analysis discloses genes implicated in equine endometrosis that may lead to tumorigenesis. *Theriogenology*. **2022**; 1;189:158-166. doi: 10.1016/j.theriogenology.2022.06.015.
2. Chmurska M, Galuszka A, Pawlicki P, Zarzycka M, Sechman A, Grzegorzewska A, Niedbala P, **Kotula-Balak M**. Effect of indoxyl sulfate on the morphology and function of the thyroid gland - ex vivo studies in rabbits. *J Physiol Pharmacol*. **2023**;74(6). doi: 10.26402/jpp.2023.6.10.
3. Duliban M, Pawlicki P, Kamińska A, Yurdakok-Dikmen B, Tekin K, **Kotula-Balak M**. Status of estrogen receptor expression and epigenetic methylation in Leydig cells after exposure to metalloestrogen - selenium. *Reprod Toxicol*. **2023**; 118:108389. doi: 10.1016/j.reprotox.2023.108389.
4. Pawlicki P, Kozirowska A, Kozirowski M, Pawlicka B, Duliban M, Wieczorek J, Płachno BJ, Pardyak L, Korzekwa AJ, **Kotula-Balak M**. Senescence and autophagy relation with the expressional status of non-canonical estrogen receptors in testes and adrenals of roe deer (*Capreolus capreolus*) during the pre-rut period. *Theriogenology*. **2023**; 1;198:141-152. doi: 10.1016/j.theriogenology.2022.12.023
5. Wolski JK, Lustofin K, Płachno BJ, Zarzycka M, Krakowska I, Korzekwa AJ, Zielinska S, Kusnierz-Cabala B, **Kotula-Balak M**. Human benign Leydig cell tumor - Biochemical evaluation. *Reprod Biol*. **2024**; 24(2):100890. doi: 10.1016/j.repbio.2024.100890.
6. Zarzycka M, **Kotula-Balak M**, Gil D. The mechanism of the contribution of ICAM-1 to epithelial-mesenchymal transition (EMT) in bladder cancer. *Hum Cell*. **2024**;37(3):801-816. doi: 10.1007/s13577-024-01053-2.
7. Lonc G, Hrabia A, Krakowska I, Korzekwa AJ, Zarzycka M, Wolak D, Wajdzik M, **Kotula-Balak M**. Is membrane androgen and estrogen receptor signaling imperative in the governing function of the adrenal cortex in the Eurasian beaver (*Castor fiber* L.)? *J Exp Zool A Ecol Integr Physiol*. **2024**;341(5):587-596. doi: 10.1002/jez.2806.
8. Pawlicki P, Yurdakok-Dikmen B, Tworzydło W, **Kotula-Balak M**. Toward understanding the role of the interstitial tissue architects: Possible functions of telocytes in the male gonad. *Theriogenology*. **2024**; Mar 15;217:25-36. doi: 10.1016/j.theriogenology.2024.01.013.
9. Wieczorek J, Pawlicki P, Zarzycka M, Pardyak L, Niedbala P, Duliban M, Yurdakok-Dikmen B, **Kotula-Balak M**. Elevated luteinizing hormone receptor signaling or selenium treatment leads to comparable changes in adrenal cortex histology and androgen-AR/ZIP9 signaling. *Protoplasma*. **2024**; 261(3):487-496. doi: 10.1007/s00709-023-01910-1.
10. **Kotula-Balak M**, Lonc G, Zarzycka M, Tomiyasu J, Knapczyk-Stwora K, Płachno BJ, Korzekwa AJ, Kaczmarczyk J, Krakowska I. The *uterus masculinus* of the Eurasian beaver (*Castor fiber* L.) - The appraisal of fast hormone regulation by membrane androgen and estrogen receptors involvement. *Gen Comp Endocrinol*. **2024**;1;345:114389. doi: 10.1016/j.ygcen.2023.114389

Description of teaching experience and achievements (up to 600 characters).
Competencies in scientific or artistic supervision

1) Teaching experience

- 2003-2019 General Endocrinology, Faculty of Biology, Jagiellonian University

- 2003-2019 Animal Physiology, Faculty of Biology, Jagiellonian University
- 2003-2019 Physiological Research Techniques, Faculty of Biology, Jagiellonian University
- 2014-2019 Hormonal Regulation of Mammalian Male Gonadal Function, Faculty of Biology, Jagiellonian University
- 2015-2019 Biology and Biochemistry, Faculty of Chemistry, Jagiellonian University
- 2012-present Biology; UCMW UJ-UR; University of Agriculture in Krakow
- 2019-present Cell Biology, UCMW UJ-UR
- 2019 Embryology, UCMW UJ-UR
- 2019-present Andrology and Artificial Insemination (W.8s.AiSU.SJ.WETXX); UCMW UJ-UR

2) Supervisor of doctoral, master's, and bachelor's theses from 2003-present

A list of at most 10 most important teaching achievements with the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students supervised by the teacher/conducting classes in a foreign language, including those related to the researcher's mobility, supervision of a scientific club, other

Lectures and practical classes in preclinical andrology abroad:

- 2017 Erasmus teaching mobility, Biomedical Center, University of Iceland, Reykjavik, Iceland
- 2018 Erasmus teaching mobility, Graduated School of Medicine, Graduated School of Veterinary, Kobe University, Kobe, Japan
- 2021 Erasmus teaching mobility, Faculty of Veterinary, Cordoba University, Spain
- 2022 Erasmus teaching mobility, Faculty of Veterinary, Ankara University, Turkey
- 2022 Erasmus teaching mobility, Faculty of Veterinary, National University of Hanoi, Vietnam
- 2024 Erasmus teaching mobility, Faculty of Veterinary, Nairobi University, Nairobi, Kenya

Description of professional experience in relation to the learning objectives, learning outcomes for the area being assessed, and program content (up to 600 characters)

Internships abroad (short- and long-term)

- 2001 training in Cellular and Molecular Endocrinology, Utrecht University, Netherlands
- 2009 - School of Molecular and Biomedical Science (Molecular Reproduction Laboratory), University of Adelaide, Australia
- 2013 research fellowship - Section on Endocrinology & Genetics, National Institutes of Health, Bethesda, USA
- 2019 research fellowship at Zhongshan Hospital Institute of Clinical Sciences, Fudan University, Shanghai, China

Other training courses in andrology and endocrinology of the male reproductive system

-2004-2020 European Workshops on Molecular and Cellular Endocrinology of the Testis (9), Meetings of the International Network for Young Researchers in Male Fertility (3), European Congress of Andrology, Molecular Andrology,

2010-2020 Gene expression analysis, Western blotting, in vitro mammalian cell cultures, real-time PCR, cell signaling, controversies in andrological diagnostics, manual analysis of germ cell parameters - WHO standards (2010), computer-assisted sperm analysis, metabolic measurement systems in rodents.

Recipient of the SKILLS Program from the Foundation for Polish Science (2014)

Improving qualifications and competencies, both in terms of one's own scientific or artistic development, as well as in the scientific or artistic supervision of doctoral students, and promotional and organizational activities (up to 600 characters)

2020-2024/2024-present: Chair of the Rector's Committee for the preparation of the European University project (main One Health track) for the teaching and research activities of UCMW UJ-UR/WMW URK and the Veterinary Faculties of partner universities.

Active participation in the organization of science popularization events: the UJ Science Festival, the Night of Biologists, and the Małopolska Night of Scientists

Memberships in scientific organizations and associations: Member of the Andrology Committee of the Committee on Reproductive Biology, Division II of the Polish Academy of Sciences, Member of the Polish Andrological Society (PTA), Member of the Polish Society of Reproductive Biology (TBR; Secretary of the Executive Board 2017-present), Member of the Polish Society of Histochemists and Cytochemists (PTHC), Member of the Australian Society of Reproductive Biology (SRB), Member of the Biology Committee of the Polish Academy of Sciences.

Member of the Editorial Boards of scientific journals: Acta Histochemica, International Journal of Endocrinology, Frontiers in Endocrinology

Name and surname: Artur Gurgul
Academic title/degree: Professor Field: agricultural sciences Discipline: animal science and fisheries Year of obtaining the title/degree: 2024
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> My scientific achievements fall within the field of agricultural sciences, encompassing the disciplines of animal science and fisheries, veterinary science, and biological sciences. In particular, my research addresses topics in population genomics, transcriptomics, molecular genetics, and molecular microbiology. I have obtained national and institutional research grants, serving as principal investigator on projects in genomics, microbiology, and molecular analyses. I have participated, or am currently participating, in 27 competitive research projects, acting as principal investigator in four of them (including leadership of work packages within large-scale research initiatives). These projects have been carried out in collaboration with twelve research teams from various scientific institutions.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1. Motyka D., Jasielczuk I., Pokorska J., Grzegorzczak J., Szmatoła T., Kowalski Z., Gurgul A., 2025. Genetic and physiological influences on the rumen microbiome and metabolic status in holstein cows. <i>J. Dairy Sci.</i>, 108,10869-10887. 2. Gurgul A., Żurowski J., Szmatoła T., Kucharski M., Sawicki S., Semik-Gurgul E., Octoń E. Cannabidiol (CBD) modulates the transcriptional profile of ethanol-exposed human dermal fibroblast cells. <i>Journal of Applied Genetics</i>. 2024;65(4):773-796. 3. Semik-Gurgul E, Gurgul A., Szmatoła T, Pawlina-Tyszko K, Gatuszka A, Pędziwiatr R, Witkowski M, Ząbek T. Methylome and transcriptome data integration reveals aberrantly regulated genes in equine sarcoids. <i>Biochimie</i>. 2023;213:100-113. 4. Gurgul A., Jasielczuk I, Miksza-Cybulska A, Kawęcka A, Szmatoła T, Krupiński J. Evaluation of genetic differentiation and genome-wide selection signatures in Polish local sheep breeds. <i>Livestock Science</i>. 2021;251:104635. 5. Gurgul A., Jasielczuk I, Szmatoła T, Sosin-Bzducha E, Majewska A, Litwińczuk Z. Divergent selection signatures of phenotypic and production traits among conserved and commercial cattle breeds. <i>Livestock Science</i>. 2020;239:104174.

6. **Gurgul A**, Miksza-Cybulska A, Szmatoła T, Jasielczuk I, Piestrzyńska-Kajtoch A, Fornal A, Semik-Gurgul E, Bugno-Poniewierska M. Genotyping-by-sequencing performance in selected livestock species. *Genomics*. 2019;111(2):186-195.
7. **Gurgul A**, Jasielczuk I, Semik-Gurgul E, Pawlina-Tyszko K, Szmatoła T, Polak G, Tomczyk-Wrona I, Bugno-Poniewierska M. A genome-wide scan for diversifying selection signatures in selected horse breeds. *PLoS One*. 2019;14(1):e0210751.
8. Author or co-author of 235 publications, including 105 peer-reviewed scientific articles, one book chapter, 19 papers published in reviewed conference proceedings, 63 presentations at international conferences, and 47 presentations at national conferences; H-index: 21, 1,398 citations (Scopus).
9. Recipient of the NCN grant No. 2020/39/O/NZ9/00821 (PRELUDIUM BIS 2): "Towards understanding the effects of cannabidiol (CBD) on living organisms – assessment of changes in the global transcriptional profile of key target organs."
10. Implementation of the Industrial Doctorate project DWD/6/0206/2022: "Variability, heritability, and structure of the bovine rumen microbiome in the context of health and productivity of dairy cattle."

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I have delivered lectures for doctoral and master's students on modern methods of molecular genetics. My experience also includes serving as the primary supervisor in three doctoral dissertations and as a co-supervisor in seven successfully defended PhD theses. In addition, I have actively contributed to the training of early-career researchers by providing substantive supervision to numerous interns and trainees, as well as conducting courses on good laboratory practice and advanced molecular techniques.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Primary supervision of three doctoral dissertations (since 2021)
 - Substantive and organizational supervision of three PhD candidates at the Doctoral School of the University of Agriculture in Kraków. Their dissertations address innovative topics in experimental medicine and genomics.
2. Supervision of seven completed PhD theses as co-supervisor (2016–2023)
 - Active and direct involvement in the training of early-career researchers, resulting in seven successfully defended doctoral dissertations. The role involved methodological, statistical, and substantive support.
3. Supervision of an award-winning master's thesis (2024)
 - Supervisor of the master's thesis "Assessment of the frequency of prion protein gene polymorphisms associated with BSE susceptibility in Polish

conservation breeds of cattle”, which received the First Prize of the Krakow Branch of the Polish Genetic Society for the best thesis.

4. Lectures for doctoral students at the National Research Institute of Animal Production (since 2012)
 - Development and delivery of regular lectures on molecular genetics, next-generation sequencing, and microarray analyses for PhD students.
5. Guest lectures for students of the Faculty of Biotechnology, University of Agriculture in Kraków (recurrent)
 - Annual specialist lectures on high-throughput nucleic acid analysis methods in animal research.
6. Training in modern genomic techniques (2013–2022)
 - Organization and delivery of numerous workshops on genotyping and NGS sequencing for researchers from Poland and abroad (including SGGW, Jagiellonian University, University of Life Sciences in Lublin, and institutions in the Czech Republic and Ukraine).
7. Supervision of interns and trainees (multi-year period)
 - Substantive supervision of at least ten interns and trainees from various institutions (including Jagiellonian University, University of Agriculture in Kraków, Wrocław University of Environmental and Life Sciences, SGGW), including one PhD candidate within the Erasmus+ program.
8. Implementation and coordination of the internship program at the Genomics Laboratory of the National Research Institute of Animal Production
 - Establishment and oversight of a structured internship program that became an important component of practical training for young researchers in genetics and genomics.
9. Training of personnel for the implementation of genomic evaluation (2018–2019)
 - Training of early-career staff at the National Research Institute of Animal Production to take over responsibilities related to genotyping within the national genomic evaluation program for cattle.
10. Service on the Council of the Doctoral School, University of Agriculture in Kraków (since 2023)
 - Membership in the Doctoral School Council, involving active participation in designing educational programs and improving the quality of doctoral education.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

As a professor and head of a laboratory, my extensive experience in molecular genetics, genomics, and bioinformatics complements and enriches the curriculum. The research projects I conduct—such as those in population genomics, transcriptomics, and next-generation sequencing—are directly reflected in the learning outcomes, including the ability to design experiments, analyze large datasets, and critically evaluate results. Through the supervision of PhD candidates, interns, and master’s students, I integrate findings from my own research practice, ensuring that students and doctoral candidates acquire the competencies essential

for modern biology and animal breeding.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

I have completed a number of training courses and participated in numerous workshops focused on high-throughput nucleic acid analysis methods and computational approaches enabling large-scale statistical analyses. I further enhance my qualifications through participation in international scientific conferences (e.g., EAAP, ISAG, PTG). I conduct research in collaboration with leading Western research institutions, including the University of Bern (Switzerland), the University of California, Davis (USA), and the University of Pisa (Italy).

I am, or have been, an active member of several scientific societies, including the Polish Genetic Society, the International Society for Animal Genetics (ISAG), the European Federation of Animal Science (EAAP), and the Biological Sciences Committee of the Polish Academy of Sciences. I also serve as an academic editor for BMC Genomics and as a member of the editorial advisory board of Reproductive Biology.

Name and surname: Joanna Kochan
Academic title/degree: dr hab Field: agricultural sciences Discipline: veterinary sciences/ veterinary Year of obtaining the title/degree: 2023
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects</i> All scientific achievements are related to the discipline of veterinary medicine, zootechnics and fisheries and concern primarily animal reproduction, clinical and experimental embryology of mammals, in particular horses, cats and sheep. I am the author or co-author of 48 scientific publications from the JCR list in the field of experimental and clinical reproduction embryology. In 2020, 2021, 2022, 2023 I received awards from the Rector of the University of Agriculture in Kraków for scientific achievements. I am a member of the European Society of Human Reproduction and Embryology and the Polish Society of Reproductive Medicine and Embryology. I am a professionally active clinical embryologist and also work at the Małopolska Institute for the Diagnosis and Treatment of Infertility. I was the Leader of a research project funded by the National Centre for Research and Development and participated in three projects funded by the National Science Centre. Furthermore, all three doctoral dissertations for which I was an adjunct supervisor were funded by Preludium grants from the National Science Centre.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> - Wyroba J, Kochan J., Kelley L, Iqbal S. Kordowitzki P. Anti-Müllerian Hormone Concentrations in Women of Different Reproductive Age and the Chances of IVF Outcome: A Paradigm Shift is needed. Aging and Disease 2024. Impact factor 7.0, Publikacja we współpracy z Harvard Medical School. - Wyroba J., Kochan J., Barszcz M, Mirocki G, Korzdowiczki P. Reproductive aging, preimplantation genetic testing for aneuploidy, and the diameter of blastocysts: does size matter?. Aging 2025, 17, 630-642. - Gabryś J., Gurgul A..... Kochan J.... Follicular Fluid-Derived Extracellular Vesicles Influence on In Vitro Maturation of Equine Oocyte: Impact on Cumulus Cell Viability, Expansion and Transcriptome. International Journal of Molecular Sciences, 2024 10.3390/ijms25063262 Kochan, J., Nowak, A., Młodawska, W., Kij B., Prochowska A., Partyka A., Skotnicki, J., Niżański, W. Comparison of the morphology and developmental potential of oocytes obtained from prepubertal and adult domestic and wild cats. Animals, 2021, 11(1), 1–11.

5. **Kochan J.**, Nowak A., Kij B., Fryc K., Prochowska S., Niżański W. A comparison of in vitro culture systems for cat embryos. *Theriogenology* **2022**, 178, 149–154.
6. Fryc K., Nowak A., Kij B. **Kochan J.**, Bartlewski P.M., Murawski M. Timing of cleavage divisions determined with time-lapse imaging is linked to blastocyst formation rates and quality of in vitro-produced ovine embryos. *Theriogenology*, **2021**, 159, 147–152.
7. Kij, B., **Kochan, J.**, Nowak, A., Niżański W., Prochowska S., Fryc, K., Bugno-Poniewierska, M. Using time lapse monitoring for determination of morphological defect frequency in feline embryos after in vitro fertilization (IVF). *Animals*, **2020**, 10(1), 3.
8. Nowak A, **Kochan J**, Kij B, Witarski W. The effect of resveratrol on the developmental competence of feline oocytes vitrified at the metaphase II stage. *Theriogenology* **2023**, 203, 101-106.
9. Kij-Mitka B., Gabryś J., **Kochan J...** Cat presumptive zygotes assessment in relation to their development. *Annals of Animal Science* 2024, 24, 445–452

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

I've been conducting teaching activities since 2005. In 2009, I completed a qualifying pedagogical course. I currently coordinate eight subjects in the following fields: animal science, veterinary medicine, biotechnology, ethology and zoopsychology, animal bioengineering, and applied biology. I also coordinate the English course (biotechnologies in animal reproduction) for Erasmus students. Additionally, I teach sexology and fertility disorders at the Faculty of Medicine, UAFM. I have been an assistant supervisor in three doctoral dissertations (two in the discipline of animal science and fisheries, one in veterinary medicine). I am currently the supervisor of a doctoral dissertation being carried out at the Doctoral School (URK) and the co-supervisor of a doctoral dissertation being carried out at the Doctoral School of the University of Life Sciences in Wrocław in the discipline of veterinary medicine.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Member of the Animal Bioengineering Faculty Council since 2022.
2. PTZ Award for the best master's thesis (2021).
3. Classes for Erasmus students at the University of Krakow.
4. Classes for English-speaking students at the Andrzej Frycz Modrzewski University.
5. Co-supervisor of two doctoral theses defended with distinction.
6. Supervision of the Biotechnology of Reproduction in Endangered Animals student research group for veterinary students.
7. Award for the best poster for students participating in the "Small Animal Reproduction" conference in Wrocław (2019).

8. Qualifying pedagogical course (2009).

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

As a clinical embryologist, I am required to complete biennial continuing education training for embryologists and those working with human gametes and embryos, culminating in an examination. I also participate in organizing and leading these training sessions (the last one was October 3-5, 2025). I also regularly attend conferences related to my research. To ensure the development of my doctoral students, I conduct training in embryological techniques at the infertility clinic and organize training sessions for them at partner centers in Poland and abroad.

Name and surname: Janusz Marcinkiewicz
Academic title/degree: Professor Field: Medical and health sciences Discipline: Medical sciences Year of obtaining the title/degree: 1996
<i>List of classes and hours taught in the assessed field</i> Course: Immunology – 8 hours of lectures, a test, and an exam • Supervisor of a PhD student at the Doctoral School • I have been employed in a ½ research position since 2023
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Since 1975, my scientific work has been related to immunology and microbiology. I have received numerous grants (KBN, NCN, The Wellcome Trust) and have had long-term collaboration with University College London. I am an experimental immunologist, a researcher, and an academic teacher. Stanford University Ranking – I am listed among the Top 2% scientists in the world. Experimental immunologist/microbiologist – innate immunity regulation (the role of neutrophils [MPO–halide system–taurine] and macrophages), biomarkers of inflammation, microbiome–immune system interaction, discoverer of Herd Trained Immunity. Over 150 scientific papers in English-language scientific journals. H-index: 41, more than 5,000 citations
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Marcinkiewicz J , Post-pandemic upsurge of group A streptococcus infections: potential link to impaired herd trained immunity following COVID-19 lockdowns. . Front Immunol. 2025 Oct 15;16:1684332. 2) Marcinkiewicz J . Increase in the incidence of invasive bacterial infections following the COVID-19 pandemic: potential links with decreased herd trained immunity - a novel concept in medicine. Pol Arch Intern Med. 2024 Sep 27;134(9):16794 3) Ciszek-Lenda M, Nowak B, Majka G, Suski M, Walczewska M, Fedor A, Golińska E, Górská S, Gamian A, Olszanecki R, Strus M, Marcinkiewicz J <i>Saccharomyces</i>

cerevisiae β -glucan improves the response of trained macrophages to severe *P. aeruginosa* infections. Inflamm Res. 2024 Aug;73(8):1283-1297

4) Ciszek-Lenda M, Majka G, Suski M, Walczewska M, Górska S, Golińska E, Fedor A, Gamian A, Olszanecki R, Strus M, **Marcinkiewicz J.** Biofilm-forming strains of *P. aeruginosa* and *S. aureus* isolated from cystic fibrosis patients differently affect inflammatory phenotype of macrophages. Inflamm Res. 2023 Jun;72(6):1275-1289

• I have listed only the works in which the University of Agriculture, Faculty of Veterinary Medicine, is given as my affiliation. The remaining >150 papers indexed in PubMed were published during my employment as a researcher at Jagiellonian University Medical College (UJCM).

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

1. I taught immunology to medical, dental, and pharmacy students for 45 years (and coordinated the course for 20 years).
2. I have been teaching immunology to veterinary students since 2012.
3. I delivered lectures for PhD students at the Jagiellonian University Medical College Doctoral School.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Lectures and seminars in Immunology for international (English-speaking) students for 30 years.
2. Four chapters in two editions of an Immunology textbook: “*Function and organization of the immune system*,” “*Infectious immunity*,” “*Protective vaccinations*,” “*Mechanisms of innate immunity*.”
Full title: *Immunology: for medical students and physicians*.
3. Students from the Scientific Society of the Department of Immunology at Jagiellonian University Medical College, which I headed from 1999 to 2021, received numerous awards at national and international conferences.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

My work with assistants and young researchers was aimed at conveying knowledge on formulating research hypotheses, planning experiments, disseminating research

results, securing research funding, and preparing scientific publications. Both the educational objectives and the course content are closely linked to my scientific achievements, my experience in obtaining research grants, and my leadership of research projects.

My qualifications were recognized through my election as Vice-Dean for Research of the Faculty of Medicine at Jagiellonian University Medical College (2015–2020) and as a member of the Council for Scientific Excellence (2020–2023).

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

I gained my research experience and qualifications primarily through two international scientific fellowships (DKFZ Heidelberg – 12 months) and as a visiting scientist at University College London from 1989 to 1999 (3 months per year).

For several years, I have been continuously expanding my knowledge by participating online in selected webinars on new developments in immunology and microbiology, both in human medicine and veterinary medicine.

Name and surname: Tomasz Wojewodzie
Academic Title/Degree: PhD, DSc, Eng Field: Social Sciences Discipline: Economics and Finance Year of Award: 2017
<i>List of classes and class hours conducted in the field of study being assessed</i> doctoral thesis supervisor
<i>A description of his scientific achievements, indicating the scientific fields/disciplines in which his achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> His research focuses on issues related to the economics and organization of agriculture, structural changes, and the impact of local governments on the sustainable development of rural areas. He has authored over 150 scientific and popular science publications and has served as a project manager and contractor in numerous research, teaching, and implementation projects, including: Contractor in the project: Economic Efficiency of Land Consolidation in Poland. Project within the Action Plan of the National Rural Network for 2014-2020. Contract No.: KSOW/3/2019/020 Contractor in the project: Environmental and Social Effects of Agricultural Management Projects in Poland. Project under the National Rural Network Action Plan for 2014-2020 - Contract No.: KSOW/4/2020/06 Project contractor: Research network of natural science universities for the development of the Polish dairy sector - research project (SUP-RIM). Ministry of Education and Science - Contract No. MEiN/2023/DPI/2872
<i>List of no more than 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1. Pijanowski J., Bogdał A., Książek L., Wojewodzie T., Kowalik T., Wałęga A., Zarzycki J., Zadrożny P., Nicia P., Strużyński A., Dacko M., Wyrębek M., Goleniowski K., Skorupka M., 2021. Environmental and social effects of land consolidation. University of Agriculture in Krakow. 2. Badach E., Koziół A., Matyjasik-Pejas R., Paluch Ł., Satoła Ł., Wojewodzie T. 2021. The influence of local governments on shaping local development conditions - a study of the Małopolska Voivodeship. C.H. Publishing House. Beck, Warsaw 3. Nicia P., Wojewodzie T., Zadrożny P., Dacko M. 2021. The Role of the Environmental Impact Report in Investment Process Management, [in:] Selected Areas and Management Tools, edited by J. Żmija, Ł. Paluch. Benedyktynów Publishing House Tyniec, pp. 85-101.

4. Zadrożny P., Dacko M., **Wojewodziec T.** Nicia P. **2021.** Selected Paradigms of Environmental Protection in the Context of Philosophy, Law, and Economics, [in:] Economics and Finance. Selected Macroeconomic and Microeconomic Aspects, edited by W. Musiał, Ł. Paluch. Benedyktynów Publishing House in Tyniec, pp. 169-185.
5. Dacko M., **Wojewodziec T.**, Pijanowski J. **2022.** Barriers to Land Consolidation in the Opinions of Institutional Representatives. Geodetic Review No. 1, pp. 10-17.
6. Nicia P., Dacko M., Janus J., Kowalik T., Pijanowski J., Paluch Ł., Płonka A., **Wojewodziec T.**, Zadrożny P. **2023.** Possibilities and barriers to the use of soil liming to improve the economic efficiency of agricultural production and reduce surface water eutrophication." (2023).
7. Pijanowski J., Janus J., Kowalik T., Nicia P., **Wojewodziec T.**, Dacko M., Płonka A., Zadrożny P., Paluch Ł. **2023.** The role of land consolidation and anti-erosion treatments in improving the efficiency of soil liming. Przegląd Geodezyjny No. 4, pp. 15-20.
8. Parzonko A., Czekaj M., **Wojewodziec T.** **2024.** Economic and organizational effects of global crises on the dairy sector in Poland. Przegląd Mleczarski, No. 7, pp. 41-52.
9. **Wojewodziec T.**, Barczyk-Ciuła J., Dacko M., Płonka A., Kopeć M., Badach E., Szewczyk W., Dulemba K. **(2024).** Using the indirect approach in estimating the mass of bio-waste as a tool for reducing municipal management costs. Municipal Finance, (5), pp. 64-76.
10. Drab A., **Wojewodziec T.**, **2024.** Village fund as a form of resident participation in the management of public funds. Scientific Papers of the Upper Silesian Academy, no. 8/2024 (20), pp. 105-114.

*Description of teaching experience and achievements (up to 600 characters).
Competencies in the field of scientific or artistic supervision*

Coordinator of undergraduate and graduate courses, including agricultural economics, territorial and economic self-government, environmental management in the investment process, master's seminars, etc. Supervisor of over 100 theses (bachelor's, engineer's, and master's). Supervisor of one completed doctoral dissertation and supervisor of one ongoing doctoral dissertation:

Justyna Barczyk-Ciuła: Entrepreneurship in the Impact Zone of the Krakow Metropolitan Area. Doctoral dissertation defended before the Discipline Council of Economics and Finance at the University of Agriculture in Krakow (September 25, 2023).

Agnieszka Martynowicz: Economic Efficiency of Selected Rural Development Support Instruments in Poland (dissertation in progress).

A list of at most 10 of your most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g., authorship of textbooks, teaching materials, implemented teaching innovations/awards received by students supervised by the teacher/conducting classes in a foreign language, including those related to the researcher's mobility, supervision of a research club, and other:

1) Adam Drab, M.A., a graduate of Economics at the Faculty of Economics and Agriculture at the University of Rzeszów (URK), and currently an employee of the Department of Food Economics and Economy, received a distinction in the Marshal Marek Nawara "Respectus 2024" competition for his master's thesis entitled "Village Fund as a Form of Resident Participation in Municipal Expenditures," prepared under the supervision of Dr. DSc, Eng. Tomasz Wojewodzic, professor at the University of Rzeszów (URK).

2) Dr. Justyna Barczyk-Ciuła, an employee of the Department of Food Economics and Economy, received a distinction in the Marshal Marek Nawara "Respectus 2024" competition. Marshal Marek Nawara's "Respectus 2023" Award for his doctoral dissertation entitled "Entrepreneurship in the Impact Zone of the Kraków Metropolitan Area," prepared under the supervision of Dr. DSc, Eng. Tomasz Wojewodzic, professor at URK.

3) During the 11th National Conference of Scientific Circles organized by SKN Manager (Tarnowska Academy – 2024), Adam Drab, a student of economics and member of the Scientific Circle of Economists at WR-E URK (Faculty of Agriculture and Economics, URK), received a distinction (1st place) for the substantive value and presentation of research results. During the conference, he presented a paper entitled "The Village Fund as an Instrument for Supporting Local Development – A Study of the Municipalities of the Gorlice County," prepared under the supervision of Dr. DSc, Eng. Tomasz Wojewodzic, professor at URK.

Description of professional experience in relation to the educational objectives, learning outcomes for the area being assessed, and program content (up to 600 characters)

Since the beginning of his career, he has been associated with the Henryk Kołłątaj University of Agriculture in Kraków (Agricultural Academy), where he is currently employed as a professor at the University of Agriculture in Kraków in the Department of Economics and Food Economy. He serves as coordinator of the Economics and Finance discipline and chair of the Discipline Council for Economics and Finance (RDEiF). He has reviewed four doctoral dissertations and one postdoctoral dissertation. As chair of the RDEiF URK, he has supervised 13 promotion procedures conducted by the RDEiF URK.

Improving qualifications and competencies, both in terms of one's own scientific or artistic development, as well as the scientific or artistic supervision of doctoral students, and promotional and organizational activities (up to 600 characters)

Member of the Senate of the Agricultural and Agribusiness Council
Vice-Chairman of the Board of the Association of Agricultural and Agribusiness Economists (2019-2023)

Imię i nazwisko: Marta Domagalska-Grędys
Academic title/degree: Master's degree/doctor habilitated Field: Social sciences Disciplines: 1. Economics and finance (75%), 2. Management and quality sciences (25%) Year of obtaining the title/degree: 1995/2013
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Achievements in the discipline: 1. Economics and finance (75%), 2. Management and quality sciences In the last 5 years (from the most recent): a. Manager of the RID mini-grant, b. Sup-RIM contractor, c. Contractor at Biostrateg Research achievements related to cooperation, creating inter-organisational relationships, taking into account entities involved in biodiversity processes – producers keeping conservation breeds, industry organizations (building networks, establishing inter-organizational relationships – from the BIOSTRATEG project (c); quality of cooperation and relations (farmer-processor, farmer-industry organization, farmer-advisory institution) in the dairy industry (Sup-RIM); study of the work-life balance of employees from rural areas.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Domagalska-Gredys M. 2020. Ocena wymiarów postaw rolników w analizie PCA). (Evaluations of dimensions of farmer attitudes in Principal Component Analysis. (PCA), Annals PAAAE (SERiA). Vol. XXII. No. (1): 66-76. 2) Domagalska-Gredys M. 2021. Marketing treści i rekomendacji produktu (Content marketing and product recommendations). Wydawnictwa PWSZ w Tarnowie. Tarnów. 3) Domagalska-Grędys M. 2022. Osadzenie i bliskość relacji gospodarstw rolnych (Embeddedness and proximity of farm relationships). Wydawnictwo Uniwersytetu Rolniczego im Hugona Kołłątaja w Krakowie, Kraków, 154 ss., ISBN 978-83-66602-52-6 4) Domagalska-Grędys, M., Żmija J. 2022. Assessment of embedding relationships of agriculture holdings` with industrial organizations /Ocena relacji osadzeniowych gospodarstw z organizacjami branżowymi. Annals PAAAE 2022; XXIV (3): 28-41. DOI: 10.5604/01.3001.0015.9679 5) Domagalska-Grędys M., Żmija J. 2023. Uwarunkowania relacyjne tworzenia łańcuchów dostaw w gospodarstwach z chowem zwierząt ras rodzimych. Economics and Organization of Logistics, 8 (1), 2023, 49–62, DOI: 10.22630/EiOL.2023.8.1.3 6) Żmija J., Domagalska-Grędys M. 2024: Uwarunkowania rozwoju gospodarstw rodzinnych z chowem zwierząt ras rodzimych w warunkach rozdrobnionego rolnictwa.

(w:) Współczesne tendencje w rozwoju rolnictwa i obszarów wiejskich. Monografia jubileuszowa poświęcona Profesorowi Bogdanowi Klepackiemu (red. nauk.) Elżbieta Jadwiga Szymańska. Wydawnictwo Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej Państwowego Instytut Badawczy, Warszawa, s. 277-303. ISBN: 978-83-7658-968-8

7) **Domagalska-Grędys M. 2024.** Gospodarowanie kapitałem ludzkim. Kreowanie-Użytkowanie-Alokacja. Wydawnictwa Akademii Tarnowskiej. Tarnów, ISBN: 978-83-970661-7-5.

8) **Domagalska-Grędys M.**, Sagan A., Piecuch K. (2025). Identification and direction of changes in work-life balance dimensions in Visegrad Group countries. *Entrepreneurial Business and Economics Review*, 13(2), 191-209. Doi: 10.15678/EBER.2025.130211

9) **Domagalska-Grędys M.**, Sroka W. (2025). A Balanced Professional and Private Life? Organisational and Personal Determinants of Work-Life Balance. *Sustainability* 17, no. 16: 7390. <https://doi.org/10.3390/su17167390>

10) **Domagalska-Grędys, M.**; Niewiadomski, M.; Piecuch, K. Aspects of Support and Types of Work-Life Balance Among Employees from Rural Areas in Poland. *Sustainability* 2025, 17, 8313. <https://doi.org/10.3390/su17188313>

Characteristics of teaching experience and achievements (up to 600 characters). Competences in scientific or artistic supervision

30 years of teaching experience at the University of Agriculture in Krakow and the State Higher Vocational School in Tarnów (currently the Tarnów Academy) in the field of economics and management

I was the supervisor of one completed doctoral thesis (2023, Dr Bartłomiej Szymczyk), master's and bachelor's theses (University of Agriculture in Krakow and Tarnów Academy). I have taught classes as part of Erasmus plus (ISARA –Lyon, Universite de Jean Monnet _IUT Saint Etienne), and completed long-term internships abroad to improve my teaching skills (the last one in September-October this year). I have written three books on marketing and management.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/ awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1) One-month internship to improve teaching skills in Lyon (ISARA)_2016.

2) One-month internship to improve teaching skills in Lyon (ISARA)_2025.

3) Erasmus + 2015_France

4) Erasmus + 2024_France

5) Erasmus + 2025_France

6) Domagalska-Grędys M., 2018: Marketing of services. Exercise guide. Published by PWSZ in Tarnów, Tarnów.

7) Domagalska-Grędys M. 2021. Content marketing and product recommendations. Published by PWSZ in Tarnów. Tarnów.

- 8) Domagalska-Grędys M. 2024. Human capital management. Creation-Use-Allocation. Tarnów Academy Publishing House. Tarnów, ISBN: 978-83-970661-7-5.
- 9) Lectures at the Małopolska Researchers' Night 2022, 2023, 2024
- 10) Lectures at the Open Days of the University of Agriculture in Krakow (2024)
- 11) Lectures promoting educational books (Tarnów Academy).

Description of professional experience in relation to educational objectives, learning outcomes assumed for the assessed area, and programme content (up to 600 characters)

Expanding teaching experience through work at a vocational university (Tarnów Academy), developing new courses for students of various economic and language programmes (programme: Foreign Languages in Business at the Tarnów Academy); working in various academic cultures, including Mediterranean (Cemagref d'Aix-en-Provence, ISARA Lyon, Université de Jean Monet Lyon-Saint Etienne and Germanic (internship at the University of Vienna). Contact with foreign students (Erasmus organisation at URK). Practical experience of contact with business (teaching in cooperation with the business environment).

Improving qualifications and competences in terms of both personal scientific or artistic development and scientific or artistic supervision of doctoral students, as well as promotional and organisational activities (up to 600 characters)

Supervision of master's and bachelor's theses.

Supervision of doctoral theses (1 completed, 2 in progress).

Reviews of doctoral theses.

Promotion of the University of Agriculture in Krakow (inaugural lecture at the Faculty of Agriculture and Economics in 2013, lectures and workshops during the Małopolska Science Night, lecture and workshops during the Open Days of the Faculty of Agriculture and Economics in Krakow. Joint submission of 2 grant applications with a doctoral student (Katarzyna Piecuch).

Imię i nazwisko: Jacek Strojny
Tytuł naukowy/stopień naukowy: dr hab. / MSc. Field: Social Sciences Discipline: Economics and Finance Year of Degree: 2010 (habilitation); 1986 (Master's Degree)
<i>List of classes and hours taught in the assessed field</i> Mathematical Economics Statistical Inference Descriptive Statistics Financial Mathematics Multivariate Quantitative Methods in Scientific Research (Doctoral Studies) Informatics in Management
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> The scientific achievements fall within the field of Social sciences, within the Discipline of Economics and Finance. Contributions to economic sciences: - Outlining a theoretical framework for developing measures of international competitiveness. - Proposing measures of international competitive position at the sectoral level. - Identifying patterns in the development and convergence prospects of the international competitive position of agriculture. - Proposing a methodological approach for assessing the international competitiveness of an enterprise or industry. - A methodology for assessing the strengths and weaknesses of an exporting entity in order to identify strategic directions for engagement in the international market.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1. Strojny J., 2019 , Ocena efektu Harbergera-Laursena-Metzlera w polskim sektorze rolno-żywnościowym, Roczniki Naukowe Ekonomii Rolnictwa i Rozwoju Obszarów Wiejskich, 106(1), s. 36-50. 2. Strojny J., 2020 , Small Farms in the Area Structure of Agricultural Holdings of the European Union Countries, Acta Scientiarum Polonorum. Oeconomia, Nr 19 (1), s. 61–70. 3. Chwastek M., Badach E., Strojny J., 2020 , Uwarunkowania rozwoju wybranej infrastruktury gmin wiejskich województwa małopolskiego, [W:] Red. T. Trzaskalik, K. Targiel, Prace Naukowe / Modelowanie preferencji a ryzyko '19-'20, s. 17-28.

4. **Strojny J., 2020**, Wektorowe modele autoregresyjne w analizie zależności między produkcją rolną a wymianą zagraniczną towarów rolno-żywnościowych krajów Unii Europejskiej. Difin, Warszawa.
5. Chwastek M., Badach E., **Strojny J., 2020**, Management of Technical Infrastructure Development at Communes in the Małopolskie Province in Terms of Sources of Financing, R. Wolniak (red.), Organization And Management, Scientific paper no. 151, Contemporary Management, Wydawnictwo Politechniki Śląskiej, Gliwice.
6. **Strojny J.**, Chwastek M.S., Badach E., Lisek S.J., Kacorzyc P., **2022**, Impacts of COVID-19 on Energy Expenditures of Local Self-Government Units in Poland, Special Issue "Economic and Social Consequences of the COVID-19 Pandemic in Energy Sector", Energies, 15(4), 1583.
7. Lisek S., **Strojny J.**, Sroka W., **2021**, Wykorzystanie technologii informacyjnych w rachunkowości przedsiębiorstw i gospodarstwach domowych, [W:] Wybrane obszary i narzędzia zarządzania / Żmija J., Paluch Ł. (red.), Wydawnictwo Benedyktynów Tyniec, s. 67-84.
8. **Strojny J.**, Niewiadomski M., **2023**, Uwarunkowania rozwoju społeczno-gospodarczego środkowoeuropejskich regionów peryferyjnych UE, Rozwój Regionalny i Polityka Regionalna, 63, 103–122.
9. Niewiadomski M., Niemczyk A., Gródek-Szostak Z., **Strojny J., 2023**, The Path to Industry 4.0. Evolution of Industry in the National Economies of the European Union in 2009-2020, International Entrepreneurship Review, Vol 9(3), 75-89.
10. **Strojny J.**, Krakowiak-Bal A., Knaga J., Kacorzyc P., **2023**, Energy Security: A Conceptual Overview, Energies 2023, 16(13), 5042.

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

1. Supervising two doctoral dissertations in economics (as a supervisor).
2. Supervising a yet-to-be-completed doctoral dissertation in economics.
3. Consulting for participants of the "International Joint Cross-Border PhD Programme in International Economic Relations and Management" at the University of Applied Sciences Burgenland, Eisenstadt, Austria.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

1. Serving as a supervisor in doctoral dissertations - supervising two PhDs in economics (where I served as supervisor).
2. Serving as a supervisor in a doctoral dissertation that has not yet been completed.
3. Teaching (as coordinator and syllabus author) in the following subjects: Mathematical Economics – full-time and part-time studies, Statistical Inference, Descriptive Statistics, Financial Mathematics, Multidimensional Quantitative Methods in Scientific Research, and Management Informatics.

4. For my scientific and teaching achievements, I have received, among others, the following awards and distinctions: the Rector's distinction for "Outstanding Achievements," the Illo award in the scientific field (2007, 2022, 2024).
5. Secretary of the Faculty Admissions Committee of the Faculty of Agriculture (Agricultural and Economics – twice).
6. Supervised a large group of students on an internship abroad (in Germany).
7. Supervised a group of students on a ten-month postgraduate program in Germany.
8. SPSS Polska (currently IBM SPSS Statistics in Poland) - conducting courses in marketing, experimental research, and sales analysis for individual users and public opinion research institutes.

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

1. Many years of professional experience as a researcher and lecturer at the URK.
2. Teaching experience at other universities (researcher and lecturer):
 - Jan Grodek State University of Applied Sciences in Sanok,
 - Tarnów State University of Applied Sciences,
 - B. Jański University of Management and Marketing in Warsaw.
3. IT and data analysis courses:
 - Unix operating system – Cyfronet AGH Academic Computer Center in Krakow,
 - IT training and data analysis and database management courses (SAS Institute, Inc.).
4. Professional experience in the real economy:
 - SPSS Polska (IBM SPSS Statistics in Poland),
 - Social research institutes.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

1. Postgraduate studies:
 - University of Newcastle upon Tyne (1994-95); MSc. in International Agricultural Marketing.
 - Off-campus faculty of Weihenstephan University, Germany (1991-92).
 - Computer and Microcomputer Information Processing Systems, AGH University of Science and Technology in Kraków (1989-90).
2. Research and teaching internships:
 - FH JOANNEUM Gesellschaft mbH; University of Applied Sciences; Graz, Austria, (September 29, 2014 to October 28, 2014).
 - University of Applied Sciences Burgenland; International Business Relations; Campus 1; 7000 - Eisenstadt; Austria, September 18, 2017 to September 22, 2017; 01/06/2023 to 03/07/2023; 04/06/2016 to 03/07/2016
 - Slovak University of Agriculture in Nitra, 24/04/2023 to 30/04/2023.

Wersja językowa angielska	
Imię i nazwisko Jakub Piecuch	
Tytuł naukowy/stopień naukowy dr hab Dziedzina nauki społeczne Dyscyplina ekonomia i finanse Rok uzyskania tytułu/stopnia 2017	
Wykaz zajęć i godzin zajęć prowadzonych na ocenianym kierunku	
Charakterystyka dorobku naukowego ze wskazaniem dziedzin/dyscyplin naukowych, w której dorobek się mieści (do 600 znaków) w tym pozyskiwanie grantów i kierowanie projektami finansowanymi z grantów. His scientific achievements are related to the discipline of economics and finance, as well as socio-economic geography and spatial management. It concerns regional development in the Mediterranean countries of the European Union and Latin America. The most important international projects: Entrepreneurship for Innovative Change I - EYE ERASMUS PROGRAMM (E4IC); YIBROVIC 1&2 - Young Innovation Brokers for Visegrad Countries, The International Visegrad Fund); Capacity building in agricultural innovation services in CEE countries (CATAllySt), ERASMUS+ KA 2 - Strategic Partnerships; Boosting European citizens knowledge and awareness of bioeconomy – BLOOM, HORYZONT 2020 ; Post-covid Recovery of Small Family Businesses in V4 Countries, Visegrad Fund ; BioEra+ , Partnerstwa Strategiczne; BioMaster , Strategic Partnership, NAWA; HORYZONT STREAMING : Sustainable Trade Regimes with Europe and Africa through Mapping Innovation, New-technology and Growth-mindset.	
Wykaz co najwyżej 10 najważniejszych osiągnięć naukowych (publikacji/patentów/projektów badawczych/nagród) z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat) Monografie: 1. Piecuch J., <i>Hiszpania w Unii Europejskiej – aspekty rozwoju regionalnego</i>, Twigger, Warszawa 2004, stron 266 (rozszerzona i zmieniona wersja pracy doktorskiej). 2. Piecuch J., <i>Rynek pracy w regionie Morza Śródziemnego. Grecja, Hiszpania i Portugalia w Unii Europejskiej w okresie prosperity i kryzysu</i>, PWN, Warszawa 2013, stron 320. 3. Piecuch J., <i>Regiony Grecji, Hiszpanii, Irlandii i Portugalii w dobie kryzysu – z perspektywy zmian struktury produkcji i zatrudnienia</i>, DIFIN, Warszawa 2017, stron 242. 4. Piecuch J., Koziół A., Pink M., <i>Biogospodarka. Wybrane aspekty</i>, Pink M., Wojnarowska M., (red.), 2020. 5. Ligenzowska J., Piecuch J., <i>Innowacyjność w rozwoju regionalnym Danii, Finlandii i Szwecji</i>, Wydawnictwo Benedyktynów, Tyniec 2022, stron 217. 6. Piecuch J., <i>Między Morzem Łąptiewów a Świętym Morzem Buriatów. Społeczno-ekonomiczne krajobrazy Syberii</i>, Towarzystwo Autorów i Wydawców Prac Naukowych Universitas, Kraków, 2022, stron 244. 7. Piecuch, J., Pater, B., Pink, M., Redlichová, R., & Tamáš, V. <i>The Circular Bioeconomy: Institutional and Production Perspectives</i> M. Pink & A. Józefowska (Eds.), , Routledge, 2025. 8. Piecuch J., <i>Ameryka Południowa na przełomie wieków. Uwarunkowania i perspektywy społeczno-ekonomicznego rozwoju kontynentu</i>, PWN, Warszawa 2025, stron 255.	
Charakterystyka doświadczenia i dorobku dydaktycznego (do 600 znaków). Kompetencje w zakresie opieki naukowej lub artystycznej	
1. I have also prepared and teach 9 original courses in English for students of international studies at the University of Agriculture in Krakow: Foundation of Macroeconomic Theory and Policy, Global Socioeconomic challenges, International Relations, Introduction to	

2. 3.	Economics, Introduction to Microeconomics, Agribusiness, Basics of Economics, Economic History, Macroeconomics and International Economics. MBA studies - Since the establishment of MBA postgraduate studies at the University of Agriculture - Cooperative Bank Management in 2018 - I have been regularly conducting classes as part of the <i>Economics in Bank Management module</i>. I am also a supervisor of diploma theses carried out during MBA studies. The Lane Kirkland Scholarship Program - In the academic year 2024/2025, I served as a research supervisor to Dr. Yuri Danko (National Agricultural University of Sumy, Sumy, Ukraine), as part of the Kirkland Program's Research path. The scientific supervision concerned the work on the project "Research on the dependence of the organic food market in Europe on imports from Ukraine". In the academic year 2025/2026, I am the scientific supervisor of the project "Uzbekistan's access to WTO and its impact to agriculture sector" by Elyor Moylieva from Uzbekistan as part of the Kirkland Program educational scholarship.
Wykaz co najwyżej 10 najważniejszych osiągnięć dydaktycznych z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat), np. autorstwo podręczników, materiałów dydaktycznych, wdrażane innowacje dydaktyczne/nagrody uzyskane przez studentów nad którymi nauczyciel sprawował opiekę naukową/prowadzenie zajęć w języku obcym, w tym w związku z mobilnością naukowca, opieka nad kołem naukowym, inne: 1) Koło Dyskusyjne Wydziału Rolniczo-Ekonomicznego w Krakowie 2) Wykłady prowadzone na zagranicznych uczelniach: a) Master Course FEM, Slovenská Poľnohospodárska Univerzita v Nitre, Nitra, Słowacja, 2010. b) Global Financial Crisis and Economic Situation in Central European Economies, Universidade dos Açores, Angra do Heroísmo, Portugalia, 2011. c) Master Course FEM, Slovenská Poľnohospodárska Univerzita v Nitre, Nitra, Słowacja, 2011. d) Master Course FEM, Slovenská Poľnohospodárska Univerzita v Nitre, Nitra, Słowacja, 2012. e) Macroeconomic aspects of Polish economy and agriculture development in European perspective, Universitat Politècnica de València, Walencja, Hiszpania, 2013. f) Applied Economics and Management, Faculty of Management, CIII-SK-0044-08-1314-M-69100, Koper University of Primorska, Słowenia 2014. g) Innovation Brokers for Visegrad Countries course I, The International Visegrad Fund, Vácduka, Węgry 2015. h) Business Economics, International Visegrad Fund, Slovenská Poľnohospodárska Univerzita v Nitre, Nitra, Słowacja, 2014. i) Evolution and actual situation of Polish Agriculture in European context, Universitat Politècnica de València, Walencja, Hiszpania, 2014. j) Innovation Brokers for Visegrad Countries course II, The International Visegrad Fund, Hajmás, Węgry 2015. k) Central European and Polish agriculture and its development, Universidad de La Laguna, San Cristobal de La Laguna, Hiszpania 2016. l) Applied Economics and Management, Faculty of Economics and Social Sciences, Szent István University, Węgry 2016. m) Central European and Polish economy and effects of accession to EU, Universidad de La Laguna, San Cristobal de La Laguna, Hiszpania 2017. n) Changes of agriculture situation in Central European Countries and Poland after accession to EU, Northeastern Federal University, Jakuck, Federacja Rosyjska, 2018 o) Influence of the global financial crisis on situation of agriculture in EU. Case of Poland, Northeastern Federal University, Jakuck, Federacja Rosyjska, 2019,	

- p) Macroeconomic aspects of Polish economy and agriculture development in European perspective, **Universidad Nacional de Colombia**, Medellin, Kolumbia 2023
- q) Producción Integrada de las Plantas. Explorando los beneficios de la certificación: perspectivas de los titulares de certificados agricultores, **Universidad Nacional de Tucuman**, San Miguel de Tucuman, Argentina, 2024,
- r) Central European and Polish agriculture and its development, **Bahir Dar University**, Bahir Dar, Etiopia, luty 2024,
- s) Central European and Polish history and the current political situation, **University for Development Studies**, Nyankpala, Northern, Ghana, 2024,
- t) Central European and Polish history and current political situation, **University of Nairobi**, Nairobi, Kenia 2024,
- u) Central European and Polish agriculture and its development and prospects for cooperation with Gabon agricultural sector, **Université Omar Bongo**, Libreville, Gabon 2024,
- v) European agriculture and its development in XXI century, **Universidad de La Laguna**, San Cristobal de La Laguna, Hiszpania 2025.
- w) The economic and agricultural situation in Central European countries, **Stellenbosch University**, Stellenbosch, RPA, 2025.

Opis doświadczenia zawodowego w powiązaniu z celami kształcenia, efektami uczenia się zakładanymi dla ocenianego obszaru oraz treściami programowymi (do 600 znaków)

I have been teaching for nearly 30 years. I was the supervisor of 4 doctoral theses, over 100 master's and bachelor's theses. I conduct classes in Polish and English.

Podnoszenia kwalifikacji i kompetencji zarówno w zakresie własnego rozwoju naukowego lub artystycznego, jak i opieki naukowej lub artystycznej nad doktorantami oraz działalność promocyjna i organizacyjna (do 600 znaków)

I am constantly improving my qualifications, recently I have been participating in classes in Statistica, carbon footprint and Spanish.

Wersja językowa angielska
Imię i nazwisko Katarzyna Utnik-Banaś
Tytuł naukowy/stopień naukowy doktor habilitowany inż., profesor URK Dziedzina Social sciences Dyscyplina economics and finance Rok uzyskania tytułu/stopnia 2018r.
Wykaz zajęć i godzin zajęć prowadzonych na ocenianym kierunku
Charakterystyka dorobku naukowego ze wskazaniem dziedzin/dyscyplin naukowych, w której dorobek się mieści (do 600 znaków) w tym pozyskiwanie grantów i kierowanie projektami finansowanymi z grantów. His scientific achievements are related to economics and finance, as well as management and quality sciences (social sciences). They concern the economics and organisation of agricultural production: plant and animal, as well as management in the field of recreation in rural and forest areas. The research was and is financed by research projects of the Ministry of Education and Science NCBiR, HORIZON, the European Social Fund and a commissioned research project.
Wykaz co najwyżej 10 najważniejszych osiągnięć naukowych (publikacji/patentów/projektów badawczych/nagród) z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat) 1) Banaś Jan, Janeczko Emilia, Zięba Stanisław, Utnik-Banaś Katarzyna, Janeczko Krzysztof: Which forest type do visitors find most attractive? Integrating management activities with the recreational attractiveness of forests at a landscape level, Landscape and Urban Planning, 2025, vol. 259, s.1-12, Numer artykułu:105367. DOI:10.1016/j.landurbplan.2025.105367 2) Janeczko E, Banaś J, Woźnicka M, Janeczko K, Zięba S, Utnik-Banaś K, Banaś A. What Kind of Recreational Infrastructure Encourages Forest Visits the Most? A Case Study of Poland. Sustainability [Internet]. 2025;17:1–24. Pobrano z: https://www.mdpi.com/2071-1050/17/8/35983) 3) Banaś Jan, Utnik-Banaś Katarzyna, Zięba Stanisław: Optimizing Biomass Supply Chains to Power Plants under Ecological and Social Restrictions: Case Study from Poland, Energies, 2024, vol. 13, nr 17, s.1-15, Numer artykułu:3136. DOI:10.3390/en17133136

- 4)** Hlaváčková Petra, Banaś Jan, **Utnik-Banaś Katarzyna**: Intervention analysis of COVID-19 pandemic impact on timber price in selected markets, *Forest Policy and Economics*, 2024, vol. 159, s.1-10, Numer artykułu:103123. DOI:10.1016/j.forpol.2023.103123
- 5)** Janeczko E, Banaś J, Woźnicka M, Janeczko K, **Utnik-Banaś K**, Zięba S, Fialová J. How Did COVID-19 Pandemic Stress Affect Poles' Views on the Role of the Forest? *Land*, 2024, vol. 13, nr 5, s.1-14, Numer artykułu:656. DOI:10.3390/land13050656
- 6)** **Utnik-Banaś Katarzyna**: PIG LIVESTOCK PRICE FLUCTUATIONS COMPARED TO CHICKEN, TURKEY, AND CATTLE PRICES FROM 2006–2022 IN POLAND, *Acta Scientiarum Polonorum. Oeconomia*, 2024, vol. 23, nr 4, s.23-32. DOI:10.22630/aspe.2024.23.4.15
- 7)** Janeczko E, Banaś J, Woźnicka M, Zięba S, **Utnik-Banaś K**, Janeczko K, Fialová J. Sociocultural Profile as a Predictor of Perceived Importance of Forest Ecosystem Services: A Case Study from Poland. *Sustainability* [Internet]. 2023;15:1–14. Pobrano z: <https://www.mdpi.com/2071-1050/15/19/14154>
- 8)** Banaś J, **Utnik-Banaś K**. Using Timber as a Renewable Resource for Energy Production in Sustainable Forest Management, *Energies*, 2022, vol. 15, nr 6, s.1-8, Numer artykułu:2264. DOI:10.3390/en15062264
- 9)** projekt „Greater potential for management and quality sciences through better use of Polish rural capital” as part of the Regional Excellence Initiative programme 2024-2027; Numer projektu RID/SP/0039/2024/01; manager of the mini-project ‘Management of tourism development in selected municipalities of the Świętokrzyskie Province’
- 10)** projekt: Biostrateg *ENERGYFEED Strategy for securing and evaluating a base of cheap, effective and safe feed energy resources for animal production based on domestic resources, with particular emphasis on modern rye varieties, 2016-2019, financed by the National Centre for Research and Development*, BIOSTRATEG2/297910/12/NCBR/2016 – head of the economic section;

Charakterystyka doświadczenia i dorobku dydaktycznego (do 600 znaków). Kompetencje w zakresie opieki naukowej lub artystycznej

I have been teaching since 1996. I teach classes for students and Erasmus students. I have supervised over 60 master's theses and 30 bachelor's theses. I have taught students from foreign universities (Austria, the Czech Republic, Spain, Slovakia, Italy, Hungary, Montenegro) as part of the Erasmus and Ceepus programmes. Currently, I teach classes in Polish and English.

Wykaz co najwyżej 10 najważniejszych osiągnięć dydaktycznych z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat), np. autorstwo podręczników, materiałów dydaktycznych, wdrażane innowacje dydaktyczne/nagrody uzyskane przez studentów nad którymi nauczyciel sprawował opiekę naukową/prowadzenie zajęć w języku obcym, w tym w związku z mobilnością naukowca, opieka nad kołem naukowym, inne

1) Author of the monograph *Efficiency of broiler chicken production during the period of economic transformation in Poland*, ZN UR w Krakowie nr 534, Wyd. UR w Krakowie;

- 2)** Classes in the Erasmus and Erasmus+ programme - I have been teaching these classes for several years (subjects: Agricultural Economics, Economics of Production) 2016–2025;
- 3)** subject *Agricultural Economics* na kierunku Agriculture (II level, IV semester) in the project „The University of Agriculture – Open space for you!” 2020r.
- 4)** Original teaching programmes for students URK;
- 5)** postgraduate studies for advisors ‘Agricultural economics (for agricultural advisors), preparation and delivery of the course ‘Economic and technical analysis in agriculture”, 2021 – 2022 (postgraduate studies co-financed by the European Union from the European Agricultural Fund for Rural Development);
- 6)** popular science publications: ‘Hodowca drobiu’ (‘Poultry Breeder’), ‘Indyk Polski’ (‘Polish Turkey’) magazine for producers, breeders and veterinarians;
- 7) Medal of the National Education Commission for outstanding contributions to education and upbringing, Ministry of National Education** Legitymacja Nr 169248, Minister D. Piontkowski, Warszawa dnia 25 lipca 2019r.

Opis doświadczenia zawodowego w powiązaniu z celami kształcenia, efektami uczenia się zakładanymi dla ocenianego obszaru oraz treściami programowymi (do 600 znaków)

My classes with students focus on disseminating research results, obtaining funding for scientific research, and editing scientific publications. Both the educational objectives and the curriculum content are closely related to my scientific achievements, my experience in obtaining funding for scientific research, and my project management skills. I work with the agricultural community and have the relevant professional experience to teach students in the above-mentioned areas.

Podnoszenia kwalifikacji i kompetencji zarówno w zakresie własnego rozwoju naukowego lub artystycznego, jak i opieki naukowej lub artystycznej nad doktorantami oraz działalność promocyjna i organizacyjna (do 600 znaków)

Despite my extensive teaching experience, I regularly improve my qualifications by participating in major scientific conferences (economists' congresses, SERiA, EAAP, WPSA), training courses and international exchanges (cooperation with researchers from the University of Pisa, Mendel University and Tokaj University). I also participate in doctoral school conferences.

Name and surname: Bartosz Mitka
Academic title/degree: dr hab. inż. Field: engineering and technical sciences Discipline: Civil Engineering, Geodesy and Transport Year of obtaining the title/degree: 2018
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Author and co-author of several dozen publications in the fields of photogrammetry and terrestrial laser scanning (TLS). Research interests: modern techniques for acquiring and processing geospatial data, in particular digital photogrammetry (including close-range photogrammetry, CRP) and terrestrial laser scanning (TLS), as well as the integration of data from heterogeneous sources. Principal investigator and performer of R&D tasks in research and development projects funded from external sources. Ongoing collaboration with commercial companies and cultural institutions in implementing close-range photogrammetry (CRP) and laser scanning solutions.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Artur Wójcik, Przemysław Kłapa, Bartosz Mitka , Izabela Piech, The use of TLS and UAV methods for measurement of the repose angle of granular materials in terrain conditions Measurement, Volume 146, November 2019 , Pages 780-791 DOI: 10.1016/j.measurement.2019.07.015 2) Jarosław Janus, Piotr Bożek, Bartosz Mitka , Jarosław Taszakowski, Arkadiusz Doróż Long-term forest cover and height changes on abandoned agricultural land: An assessment based on historical stereometric images and airborne laser scanning data, Ecological Indicators 120 (2021) 106, https://doi.org/10.1016/j.ecolind.2020.106904 3) G. Szewczyk, Kraj, B. Mitka , P. Bożek, P. Tylek, The impact of platform mounting systems used in rope parks on tree vitality, Forestry: An International Journal of Forest Research, 2023 https://doi.org/10.1093/forestry/cpad054 4) Bartosz Mitka , Przemysław Kłapa, Pelagia Gawronek, Laboratory Tests of Metrological Characteristics of a Non-Repetitive Low-Cost Mobile Handheld Laser Scanner, Sensors 2024 , 24(18), 6010; https://doi.org/10.3390/s24186010 5) Bartosz Mitka , Przemysław Kłapa, Piotr Pióro, Acquisition and Processing Data from UAVs in the Process of Generating 3D Models for Solar Potential Analysis Analysis. Remote Sens. 2023 , 15, 1498. https://doi.org/10.3390/s15061498 6) Bartosz Mitka , Przemysław Kłapa, Maria Makuch: Przyrząd pomiarowy do integracji danych pochodzących z naziemnego skaningu laserowego (TLS) i bezzałogowych

statków powietrznych (UAV), Wynalazek, Chroniony, Numer patentu/prawa: Pat.235753, Data zgłoszenia: 29-01-2018, Data udzielenia (decyzji): 24-04-2020

7) **Mitka Bartosz**, Szelest Igor, Szelest Paweł: Sposób separacji obiektów z tła dla obrazów cyfrowych z wykorzystaniem światła spolaryzowanego i stanowisko do separacji obiektów z tła dla obrazów cyfrowych z wykorzystaniem światła spolaryzowanego, Wynalazek, Chroniony, Numer zgłoszenia (w pierwszym kraju zgłoszenia powyżej): P.404917, Numer patentu/prawa: 230397, Data zgłoszenia (w pierwszym kraju zgłoszenia powyżej): 30-07-2013, Data udzielenia (decyzji): 12-06-2018

8) **Bartosz Mitka**, Piotr Bożek, Zestaw elementów pomiarowych dla opracowań fotogrametrycznych obiektów walcowych. Wzór użytkowy, Zestaw elementów pomiarowych dla opracowań fotogrametrycznych obiektów walcowych, chroniony, Numer patentu/prawa: Ru072557, Data zgłoszenia: 24-02-2021, Data udzielenia (decyzji): 12-01-2022

9) **Bartosz Mitka**, Przemysław Kłapa: Podstawa poziomująca dla kul referencyjnych do orientacji pomiarów z naziemnego skaningu laserowego i bezzałogowych statków powietrznych, Wzór użytkowy, Chroniony, Numer patentu/prawa: Ru072387, Data zgłoszenia: 05-06-2020, Data udzielenia (decyzji): 14-10-2021

10) Kierownik Projektu w ramach programu Inkubator Innowacyjności 2.0 realizowanego w ramach projektu pn. „Wsparcie zarządzania badaniami naukowymi i komercjalizacja wyników prac B+R w jednostkach naukowych i przedsiębiorstwach” w ramach Programu Operacyjnego Inteligentny Rozwój 2014-2020 (Działanie 4.4).

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

- Supervisor of 55 engineering theses.
- Supervisor of 61 master's theses.
- Advisor for numerous student conference papers (including award-winning) within the Geodesy Student Research Group.
- Auxiliary supervisor in four completed PhD theses.
- Auxiliary supervisor of one doctoral candidate enrolled in the Doctoral School.
- Supervisor of two doctoral candidates enrolled in the Doctoral School.
- Coordinator and lecturer of courses in photogrammetry, close-range photogrammetry (CRP), terrestrial laser scanning (TLS), and 3D modeling.
- Supervisor of doctoral research internships carried out at the University of Agriculture in Krakow.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1) **Mitka Bartosz**, Piech Izabela: Fotogrametria cyfrowa: fotogrametryczne opracowanie naziemne i lotnicze dla studentów geodezji Uniwersytetu Rolniczego w Krakowie, 2019, Uniwersytet Rolniczy im. Hugona Kołłątaja w Krakowie, ISBN 978-83-64758-77-5, 123 pp.; monograph.
- 2) Advisor to the Geodesy Student Research Group, 2017–2021.
- 3) Advisor to the Photogrammetry Section of the Geodesy Student Research Group, 2011–present.
- 4) On 7 February 2020 in Warsaw, the GeoAzymuty poll organized by geodesy students was concluded; the Geodesy Student Research Group of the University of Agriculture in Krakow received the GeoAzymut award in the “Geodetic Event” category.
- 5) 13th National Conference of Geodesy Students — Photogrammetry Section of the Geodesy Student Research Group, University of Agriculture in Krakow; scientific supervisor: Bartosz Mitka, PhD Eng.; authors: Piotr Bożek, MSc Eng.; Magdalena Iwanowska, Eng.; Michał Szczypka; 1st place — poster, “Comparative analysis of methods for obtaining Digital Terrain Models (DTMs) based on the quarry in Lutowska.”

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Habilitated doctor of technical sciences in the discipline of geodesy and cartography, specializing in photogrammetry and remote sensing. He holds extensive professional experience—attested by national professional licenses—gained over many years in photogrammetric companies, including managerial roles. He specializes in close-range digital photogrammetry (CRP) and terrestrial laser scanning (TLS). Since the outset of his professional career, his work has focused on close-range photogrammetry, particularly the application of photogrammetric techniques and TLS to the inventory, digitization, and visualization of buildings and structures across a range of scales.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

- Participation in specialist training in the operation of surveying software and measurement equipment.
- Participation within the “Geointegration” Research Collaboration Platform in workshops for doctoral candidates and supervisors:
 - HackathonGeoAI, 21–24 November 2024, Warsaw, Warsaw University of Technology.
 - Workshop: Remote Sensing and Data Processing, 8–10 May 2025, Krakow, AGH University of Krakow.
- Coordinator of the Małopolska Researchers’ Night at the Faculty of Environmental Engineering and Geodesy (WIŚiG), University of Agriculture in Krakow (URK).
- Rector’s Plenipotentiary for Unmanned Aerial Vehicles (UAV).

- Member of the jury for the President of the Polish Space Agency Award for the best thesis in the field of space research, 2024–2025.

Wersja językowa angielska	
Imię i nazwisko	Tomasz Salata
Tytuł naukowy/stopień naukowy	doktor habilitowany, profesor uczelni
Dziedzina	engineering and technical sciences (civil engineering)
Dyscyplina	civil engineering, geodesy and transport
Rok uzyskania tytułu/stopnia	2019
Wykaz zajęć i godzin zajęć prowadzonych na ocenianym kierunku	
I do not teach any classes	
Charakterystyka dorobku naukowego ze wskazaniem dziedzin/dyscyplin naukowych, w której dorobek się mieści (do 600 znaków) w tym pozyskiwanie grantów i kierowanie projektami finansowanymi z grantów.	
My scientific activity is related to the discipline of civil engineering, geodesy and transport (within the field of engineering and technical sciences) and focuses primarily on: the application of GIS in analyses of agricultural production space and environmental protection; GIS applications in spatial policy, spatial planning and land use management, cultural landscape and spatial order; conducting conceptual research for the development of spatial information systems; and the use of GIS tools in hydrological studies.	
Wykaz co najwyżej 10 najważniejszych osiągnięć naukowych (publikacji/patentów/projektów badawczych/nagród) z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat)	
1. Helfenstein, J., Hepner, S., Kreuzer, A., Achermann, G., Williams, T., Bürgi, M., Debonne, N., Dimopoulos, T., Diogo, V., Fjellstad, W., Garcia-Martin, M., Hernik, J., Thanasis, K., Lausch, A., Levers, C., Liira, J., Mohr, F., Moreno, G., Pazur, R., i in. (2024). Divergent agricultural development pathways across farm and landscape scales in Europe: Implications for sustainability and farmer satisfaction. <i>Global Environmental Change-Human and Policy Dimensions</i>, Article 86. https://doi.org/10.1016/j.gloenvcha.2024.102855 2. Król, K., Kukulska-Kozieł, A., Cegielska, K., Salata, T., & Hernik, J. (2024). Turbulent Events Effects: Socioeconomic Changes in Southern Poland as Captured by the LSED Index. <i>Sustainability</i>, 16, Article 1. https://doi.org/10.3390/su16010038 3. Hernik, J., Linke, H. J., Król, K., Salata, T., Kukulska-Kozieł, A., & Cegielska, K. (2024). Artificial Intelligence and Geodata for Local Community Sensibilization to Sustainable Spatial Development. W K. S. Soliman (Redaktor), <i>Artificial intelligence and Machine Learning</i>. https://doi.org/10.1007/978-3-031-62843-6_4 4. Cegielska, K., & Salata, T. (2023). A multimetric approach to anthropogenic pressure analyses: A tool for measuring and mapping the human impact on the landscape. <i>Land Degradation & Development</i>, 34, Article 17. https://doi.org/10.1002/ldr.4845 5. Hernik, J., Linke, H. J., Król, K., Salata, T., Kukulska-Kozieł, A., & Cegielska, K. (2023). Artificial Intelligence and Geodata for Local Community Sensibilization to Sustainable Spatial Development. W K. S. Soliman (Redaktor), <i>Proceedings of the 41st International Business Information Management Association Computer Science Conference (IBIMA) : Theory and Practice in Modern Computing: From</i>	

Artificial Intelligence to Computer Security.

<https://doi.org/10.6084/m9.figshare.23925030>

6. Prus, B., Wilkosz-Mamcarczyk, M., & Salata, T. (2020). Landmarks as Cultural Heritage Assets Affecting the Distribution of Settlements in Rural Areas—An Analysis Based on LIDAR DTM, Digital Photographs, and Historical Maps. *Remote Sensing*, 12, Article 11. <https://doi.org/10.3390/rs12111778>
7. Wałęga, A., & Salata, T. (2019). Influence of land cover data sources on estimation of direct runoff according to SCS-CN and modified SME methods. *Catena*, Article 172. <https://doi.org/10.1016/j.catena.2018.08.032>
8. Cegielska, K., Kukulska-Kozieł, A., Salata, T., Piotrowski, P., & Szylar, M. (2019). Shannon entropy as a peri-urban landscape metric: concentration of anthropogenic land cover element. *Journal of Spatial Science*, 64, Article 3. <https://doi.org/10.1080/14498596.2018.1482803>
9. Autor i współautor 79 oryginalnych prac naukowych; Indeks Hirscha 8, cytowania 188 (WoS)
10. Research team member in the project “Artificial Intelligence and Geodata for Raising Awareness of Local Communities for Sustainable Spatial Development (GeoSen)” in the 4th Polish-German Bilateral Cooperation Call: Digital GreenTech for Smart Villages, funded by the National Centre for Research and Development (NCBR), 2022–2024

Charakterystyka doświadczenia i dorobku dydaktycznego (do 600 znaków). Kompetencje w zakresie opieki naukowej lub artystycznej

I have been teaching since 1998. I served as the supervisor of one doctoral dissertation, the assistant supervisor of two doctoral dissertations, and the supervisor of a total of 201 engineering and master’s theses. I organized two international scientific conferences in the Land-Technology-Economy series. I have also been a speaker at numerous national and international conferences..

Wykaz co najwyżej 10 najważniejszych osiągnięć dydaktycznych z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat), np. autorstwo podręczników, materiałów dydaktycznych, wdrażane innowacje dydaktyczne/nagrody uzyskane przez studentów nad którymi nauczyciel sprawował opiekę naukową/prowadzenie zajęć w języku obcym, w tym w związku z mobilnością naukowca, opieka nad kołem naukowym, inne

1. I applied the research conducted in my habilitation dissertation (Salata, T. (2019). The concept of a standardized method for determining built-up areas. In: Scientific Papers of the University of Agriculture in Krakow. Dissertations (No. 426; Vol. 549, p. 172). Hugo Kołłątaj University of Agriculture in Krakow) to the development of the syllabus for a course in the Spatial Management programme.
2. I supervised the doctoral dissertation of Katarzyna Cegielska titled “The Concept of a Multimetric Anthropoppression Index Developed in a GIS Environment,” defended on June 9, 2021, which received the Award of the Minister of Development, Labour and Technology in the field of geoinformation in the doctoral dissertations category (4th edition of the competition), awarded on June 24, 2022.
3. From 2014 to 2022, I was the supervisor of the LOCUS Spatial Management Student Research Group.

4. I am the author of unique curricula for several courses taught to students at the University of Agriculture in Krakow.
5. I developed the master's programme (second-cycle studies) in Spatial Management with a specialization in Geoinformation.
6. I co-developed the study programme for the Geodesy and Cartography field at both first- and second-cycle levels.
7. I co-developed the study programme for the Geoinformatics field at the first-cycle level.

Opis doświadczenia zawodowego w powiązaniu z celami kształcenia, efektami uczenia się zakładanymi dla ocenianego obszaru oraz treściami programowymi (do 600 znaków)

Work with doctoral students covers topics related to the dissemination of scientific research results, obtaining funding for research activities, and editing scientific publications. Both the learning objectives and the course content are directly linked to my scientific achievements, experience in acquiring research funding, and participation in research projects. An important complement to this is my many years of experience in conveying practical knowledge in the field of geographic information systems, both in conceptual and implementation contexts. My extensive cooperation with the GIS sector confirms that I possess the appropriate professional competences to conduct doctoral training in these areas.

Podnoszenia kwalifikacji i kompetencji zarówno w zakresie własnego rozwoju naukowego lub artystycznego, jak i opieki naukowej lub artystycznej nad doktorantami oraz działalność promocyjna i organizacyjna (do 600 znaków)

Despite my extensive teaching experience, I continuously enhance my qualifications by participating in GIS and IT training courses, organized mainly in Poland by leading companies such as GIS Support Sp. z o.o., EnviroSolution Sp. z o.o., and CENAGIS (Warsaw University of Technology).

Language version: English
Full name: Monika Siejka
Academic title/degree: dr hab. inż. Field: engineering and technical sciences Discipline: Civil Engineering, Geodesy and Transport Year the title/degree was obtained: 2018
List of classes and hours taught in the assessed field PhD thesis supervisor
Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects. My scientific achievements are related to the disciplines of civil engineering, geodesy, and transport (a field of engineering and technical sciences). My research focuses on real estate management in the context of implementing the principles of sustainable development and covers the following topics: multifunctional geospatial data acquisition systems, real estate valuation, spatial analysis of real estate markets using data mining techniques and multi-criteria decision analysis methods, the quality of spatial data contained in official databases, the construction of a multidimensional cadastre model, and the use of modern measurement techniques for acquiring spatial data.
List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with titles and years (with particular emphasis on the last 5 years). 1) Klapa, P., Siejka, M., & Piaseczna, K. (2025). Synergy of BIM, GIS, and open-access geospatial data in 3D modelling for property management. <i>Reports on Geodesy and Geoinformatics</i>, 120, 40–55. https://doi.org/10.2478/rgg-2025-0015. 2) Mika, M., Siejka, M., Stręk, Ż., & Hudecová, Ľ. (2024). General problems of the cadastre system - case study in Poland. <i>Acta Scientiarum Polonorum, Administratio Locorum</i>, 23, Article 2. https://doi.org/10.31648/aspal.9641. 3) Leń, P., Maciąg, M., Siejka, M., Maciąg, K., Kocur-Bera, K., & Rapiński, J. (2024). A New Method for Assessing Land Consolidation Urgency, including Market Value. <i>Sustainability</i>, 16, Article 2. https://doi.org/10.3390/su16020835 4) Kocur-Bera, K., Rapiński, J., Siejka, M., Leń, P., & Małek, A. (2023). Potential of an Area in Terms of Pro-Climate Solutions in a Land Consolidation Project. <i>Sustainability</i>, 15, Article 12. https://doi.org/10.3390/su15129306. 5) Noga, K., Sikora, A., Siejka, M., Natividade-Jesus, E., Moreira, C., & Skrzypczak, I. (2023). Identification of land system transformations in the Rzeszów city square. <i>Archives of Civil Engineering</i>, 69, Article 2. https://doi.org/10.24425/ace.2023.145287. 6) Siejka, M. (2020). The Use of AHP to Prioritize Five Waste Processing Plants Locations in Krakow. <i>ISPRS International Journal of Geo-Information</i>, 9, Article 2. https://doi.org/10.3390/ijgi9020110.

- 7) Lipka, K., Siejka, Z., & **Siejka, M.** (2022). Peat Thickness Changes at the “Wotosate” Raised Bog in the Western Bieszczady Mountains. *Water*, 14, Article 22. <https://doi.org/10.3390/w14223659>.
- 8) Kotlarz, P., **Siejka, M.**, & Mika, M. (2020). Assessment of the accuracy of DTM river bed model using classical surveying measurement and LiDAR: a case study in Poland. *Survey Review*, 52, Article 372, <https://doi.org/10.1080/00396265.2019.1696515>.
- 9) Carrier for a prismatic reflector integrated with a target plate for a wall benchmark. **Siejka Monika**, Godek Klemens, Invention, Protected, Application number (in the first country of filing above): 413360, **Patent**/right number: **225730**, Filing date (in the first country of filing above): 31-07-2015, Date of right grant: 04-11-2016, Patent/design publication: [WUP 31-05-2017]. Invention commercialization 2019.

Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision

I have been teaching students since 1996. I supervised a doctoral dissertation completed in 2024 and supervised 120 master's theses and 30 engineering theses.

List of up to 10 most important teaching achievements, with titles and years (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations, awards obtained by students under the teacher's supervision, teaching in a foreign language (including in connection with academic mobility), supervision of a student research group, others.

- 1) Co-author of the textbook, Piasek Z., Więch (**Siejka**) **M.** 1998. Methods of land property valuation in flood zones of mountain rivers and streams. Textbook for students of Technical Higher Schools. Series of Scientific and Didactic Publishing Houses. Kraków. pp. 71.
- 2) Co-author of a chapter in the book: **Siejka M.**, Siejka Z. 2007. Chapter VII "Poligonization" in the collective work: Geodesy in Environmental Management. A book for students of environmental engineering, geodesy, spatial management, and civil engineering. Published by Pikador, Nowy Sącz. pp. 139-182.
- 3) Co-author of the Master's degree program for the Geodesy and Cartography major, specializing in Cadastre and Real Estate Valuation.
- 4) Co-author of the (engineer) degree programs for the Spatial Management major.
- 5) Author of teaching materials for students of Geodesy and Cartography and Spatial Management.
- 6) Author of the teaching programs for students of the University of Agriculture in Krakow.

Description of professional experience in relation to the educational objectives, intended learning outcomes for the evaluated area and programme content (up to 600 characters).

I hold professional license in real estate valuation. Within this framework, I am a co-executor and consultant on tasks related to determining compensation for land seized for public investment projects and regulating the legal status of land seized for public roads.

Improving qualifications and competencies, both in terms of personal scientific or artistic development and in terms of scientific or artistic supervision of doctoral students, as well as promotional and organisational activities (up to 600 characters).

I regularly attend national and international scientific and technical conferences (e.g., FIG, TNN) organized by academic institutions, and I also participate in seminars and training courses for property appraisers. I am a member of the Polish Academy of Sciences' Committee on Geodesy, a member of the Real Estate Scientific Society (TNN), a member of the Polish Federation of Real Estate Appraisers' Associations, a member of the Malopolska Association of Real Estate Experts, and a member of the Institute of Real Estate Market Monitor mrn.pl.

Language version: English
Full name: Marek Ślusarski
Academic title/degree: habilitation degree Field: engineering and technical sciences Discipline: civil engineering, geodesy and transport Year the title/degree was obtained: 2018
List of courses and teaching hours delivered in the evaluated programme
Description of scientific output, indicating the scientific fields/disciplines to which it belongs (up to 600 characters), including acquisition of grants and leadership of grant-funded projects. The scientific output is related to the discipline of civil engineering, geodesy and transport (field of engineering and technical sciences). The output concerns the analysis of data quality in geoinformation databases and the investigation of inconsistency errors in official databases.
List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with titles and years (with particular emphasis on the last 5 years). 1) Przewięźlikowska, A., Ślusarczyk, W., Wójcik, K., & Ślusarski, M. (2025). Efficient and scalable architecture for location-based mobile applications using metrika. Automation in Construction, 172, 1–15. 2) Ślusarski, M. , & Przewięźlikowska, A. (2025). Assessing the Risk of Damage to Underground Utilities Caused by Spatial Data Quality with Fuzzy Logic. Applied Sciences-Basel, 15. 3) Ślusarski, M. , & Przewięźlikowska, A. (2024). Risk assessment for underground utility damage due to spatial data quality. Archives of Civil Engineering, 70. 4) Ślusarski, M. (2023). Harmonisation of the EGIB, GESUT and BDOT500 conceptual models with the BDOT10k database in terms of data quality and supply. Geomatics, Landmanagement and Landscape. 5) Zygmunt, M., Michałowska, K., & Ślusarski, M. (2023). The point location problem on the example of determining map identification number and map sheet extent in the IMW system. Geomatics, Landmanagement and Landscape. 6) Ślusarski, M. (2022). Methods of revaluation of former geodetic measurement networks. Geomatics, Landmanagement and Landscape, 7. 7) Ślusarski, M. , & Jurkiewicz, M. (2020). Visualisation of Spatial Data Uncertainty. A Case Study of a Database of Topographic Objects. ISPRS International Journal of Geo-Information, 9,
Description of teaching experience and achievements (up to 600 characters). Competences in scientific or artistic supervision I have been teaching university courses since 1992. I have served as auxiliary supervisor for 2 doctoral theses and as supervisor for 113 master's theses and 125 engineering (BSc) theses.

List of up to 10 most important teaching achievements, with titles and years (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations, awards obtained by students under the teacher's supervision, teaching in a foreign language (including in connection with academic mobility), supervision of a student research group, others.

1. Co-author of study programmes (master's and engineering) for the geodesy and cartography degree programme.
2. Author of teaching materials for students of the geodesy and cartography and spatial management degree programmes.
3. Author of course syllabi for students of URK (University of Agriculture in Krakow).

Description of professional experience in relation to the educational objectives, intended learning outcomes for the evaluated area and programme content (up to 600 characters).

I hold professional licences to perform independent functions in the field of geodesy and cartography. Within the scope of these licences, I act as a co-executor and consultant for a wide range of geodetic works (including, among others, the modernisation of district geodetic databases).

Improving qualifications and competencies, both in terms of personal scientific or artistic development and in terms of scientific or artistic supervision of doctoral students, as well as promotional and organisational activities (up to 600 characters).

I am a regular participant in scientific and scientific-technical conferences organised by various academic institutions.

Wersja językowa polska oraz angielska	
Imię i nazwisko	Stanisław Bacior
Academic Title/Degree: PhD, DSc, Eng., Professor, URK Field: Engineering and Technical Sciences Discipline: Civil Engineering, Geodesy, and Transportation 75%, Environmental Engineering, Mining, and Energy 25% Year of Award: 2020	
List of classes and class hours in the assessed program Preparation for professional certification (lecture 10 hours, Exercise 30) Maps for legal purposes (lecture 10 hours, Exercise 30) Real estate divisions and demarcations (lecture 10 hours, Exercise 15) Elements of the land and building register (lecture 10 hours, Exercise 15) Acquiring rights to real estate in court proceedings (lecture 15 hours, Exercise 30) Cadastral surveying (lecture 10 hours, Exercise 15)	
A description of scientific achievements, indicating the scientific fields/disciplines in which the work falls (up to 600 characters), including grant acquisition and management of grant-funded projects. Scientific achievements are related to the disciplines of civil engineering, geodesy, and transportation (75% and 100%), and environmental engineering, mining, and energy (25%). Research focuses on three main research areas. The first concerns the impact of highways on agricultural land; the second concerns the optimization of farm land layouts; and the third concerns real estate management, land cadastre, divisions and demarcations, and mapping for legal purposes. List of grants from the last five years: 1. Project coordinator from October 1, 2018 to December 31, 2019: "Internship Program for Students of Geodesy and Cartography at the University of Agriculture in Krakow" POWR.03.01.00-00- S089/17, implemented by the Hugo Kołłątaj University of Agriculture in Krakow, financed by the European Union under the European Social Fund under Priority Axis III "Higher education for economy and development" of the Knowledge Education Development Operational Program, Measure 3.1 "Competences in higher education." 2. Main contractor of the grant financed by the "Excellent Science" program of the Minister of Science and Higher Education, Project registration no. DNM/SP/466153/2020, entitled "Scientific Experiences in Surveying Practice," implemented in 2019-2021, project title: Demarcation Procedures: Theoretical Aspects and Practical Examples. 3. Manager of the "New Highways" innovation grant from January 2021 as part of the second edition of the Innovation Incubator program. 4. Manager of the Social Responsibility of Science / Excellent Science, Support for Scientific Monographs grant implemented in 2022-2024, project title: Property Divisions in Theory and Practice. Project registration number: DNM/SP/549172/2022	
A list of at most 10 of the most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years) Publications	

- 1) Bacior S. 2021 Historical maps of the Galician land cadastre – geodetic cultural heritage of Małopolska. In: Catalog of cultural heritage of Małopolska / Hernik Józef, Prus Barbara, Król Karol (eds.), 2021, Kraków, Wydawnictwo Hugo Kołłątaj University of Agriculture in Krakow, pp. 331-344, ISBN 978-83-66602-23-6
- 2) Prus B., Dudzińska M., Bacior S., Determining and quantifying the historical traces of spatial land arrangements in rural landscapes of Central and Eastern Europe Scientific Reports, 2021, vol. 11, no. 1, pp. 1-16, Article number: 23421
- 3) Bacior S., Chmielowski K., Prus B. Assessment of Motorway Impact on Agricultural Land with a Simplified Method and GIS Data as a Tool for Selecting the Optimal Route Sustainability, 2022, vol. 14, no. 24, pp. 1-13. DOI 10.3390/su142416410
- 4) Bacior S., Austrian Cadastre still in use - Example proceedings to determine the legal status of land property in southern Poland. Land Use Policy, 2023, vol. 131, pp. 1-20, Article number: 106740.
- 5) Dudzińska M., Prus B., Bacior S., Premises for locating industrial and warehouse sites - Evidence from the backyard of Europe's Green Lungs. Land Degradation & Development, 2024, vol. 35, no. 16, pp. 4766-4780.

Books

- 6) Bacior S.: Optimization of rural land systems - experimental studies. Scientific Papers of the Hugo Kołłątaj University of Agriculture in Krakow. Dissertations, vol. 551, no. 428, 2019, Kraków, University of Agriculture in Kraków, 176 pp., ISBN 978-83-66602-37-3
- 7) Bacior S., Hernik J., Prus B, 2021, Demarcation proceedings. Theoretical Aspects and Practical Examples, Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 208 pp., ISBN 978-83-66602-21-2
- 8) Bacior S., Prus B., 2022, Modeling the Route of a Motorway Using Modern Tools, Krakow, Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 175 pp., ISBN 978-83-66602-67-0
- 9) Bacior S., 2024, Real Estate Divisions in Theory and Practice, Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 253 pp., ISBN 978-83-66602-84-7
- 10) Chmielowski K., Bacior S., Gawroński K., Pijanowski J.: Holder verticalizing, Utility model, Application number: W.126976 [WIPO ST 10/C PL126976U] Michalec B., Bacior S., Cupak A.: Floating geodetic staff, Invention, Application number: P.427005

Description of teaching experience and achievements (up to 600 characters).

Competencies in the field of scientific or artistic supervision

I have been teaching since 1996. During my 29 years at the University of Agriculture in Krakow, I have taught the following subjects: Cadastral Geodesy Geodetic Management of Agricultural Land Real Estate Divisions and Demarcations Preparation for Professional Certifications Maps for Legal Purposes Elements of the Land and Building Register Acquiring Real Estate Rights in Court Proceedings

In my courses, I place particular emphasis on practical elements based on professional experience and my qualifications in surveying. I have developed my own curriculum for these subjects. I have supervised one doctoral dissertation. I have also supervised three doctoral dissertations (including two completed ones), and I have supervised 97 master's and 103 engineers. I have also been an invited speaker at scientific and industry conferences in Poland and abroad (including Bulgaria, Lithuania, the Czech Republic, and Turkey).

A list of at most 10 most important teaching achievements with the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students supervised by the teacher/conducting classes in a foreign language, including those related to the researcher's mobility, supervision of a scientific club, other

Author's Books

1) **Bacior S.:** Optimization of Rural Land Systems - Experimental Studies. Scientific Papers of the Hugo Kołłątaj University of Agriculture in Krakow. Dissertations, vol. 551, no. 428, 2019, Krakow, Hugo Kołłątaj University of Agriculture in Krakow, 176 pp., ISBN 978-83-66602-37-3

2) **Bacior S.,** Hernik J., Prus B., 2021, Demarcation Proceedings. Theoretical Aspects and Practical Examples Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 208 pp., ISBN 978-83-66602-21-2

3) **Bacior S.,** Prus B., 2022, Modeling the Route of a Motorway Using Modern Tools, Krakow, Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 175 pp., ISBN 978-83-66602-67-0

4) **Bacior S.,** 2024, Real Estate Divisions in Theory and Practice Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 253 pp., ISBN 978-83-66602-84-7

5) **Project Coordinator** in the period from 01/05/2016 to 31/12/2017 entitled "Professional Surveyor on the Labor Market" POWR.03.01.00-00-S242/15, implemented by the Hugo Kołłątaj University of Agriculture in Krakow, financed by the European Union under the European Social Fund under Priority Axis III "Higher education for economy and development" of the Knowledge Education Development Operational Programme, Measure 3.1 "Competences in higher education".

6) **Coordinator of the project** from October 1, 2018 to December 31, 2019, entitled "Internship program for students of the Geodesy and Cartography program of the University of Agriculture in Krakow" POWR.03.01.00-00-S089/17, implemented by the Hugo Kołłątaj University of Agriculture in Krakow, Hugo Kołłątaj University of Applied Sciences in Kraków, financed by the European Union through the European Social Fund under Priority Axis III "Higher education for economy and development" of the

Knowledge Education Development Operational Programme, Measure 3.1
"Competences in higher education."

7) Ministry of Agriculture of the Land of Thuringia, as part of the project: "Modern academic education in water and wastewater management in rural areas." Project no.: PL/07/LLP-LdV/VETPRO/140487, 2008.

8) Participation in the Leonardo da Vinci Lifelong Learning Programme, Project No. PL/09/LLP-LdV/VETPRO/140472.

9) Participation in the Leonardo da Vinci Lifelong Learning Programme, Project No. 2010-1-PL1-LEO03-10109.

Description of professional experience in relation to the learning objectives, learning outcomes assumed for the area being assessed and the program content (up to 600 characters)

Since July 2000, I have been running the Geodetic Services Company "GEO-MEDIA-MAŁOPOLSKA." The company provides a full range of geodetic services, covering southeastern Poland. Since June 23, 2008, I have also served as a court-appointed expert in geodesy at the District Court in Kraków. During my 17 years of experience, I have prepared over 3,500 opinions and expert reports for the District Court in Kraków, the District Court for Kraków Śródmieście, the District Court for Kraków Podgórze, the District Court for Kraków Nowa Huta, the District Court for Kraków Krowodrza, the District Court in Sucha Beskidzka, the District Court in Bochnia, the District Court in Brzesko, the District Prosecutor's Office in Sucha Beskidzka, the Provincial Police Headquarters in Kraków, and others. My activities focus on disseminating scientific research results, raising funds for scientific research, and editing scientific publications. Both the educational objectives and the course content are closely linked to my academic achievements, experience in obtaining research funding, and managing research projects. Equally important is my extensive, long-standing experience in imparting knowledge based on my professional experience as a licensed surveyor and a court-appointed expert in geodesy since 2008.

Raising qualifications and competences both in terms of one's own scientific or artistic development, as well as scientific or artistic supervision of doctoral students and promotional and organizational activities (up to 600 characters)

Despite my extensive teaching experience, I am constantly improving my professional qualifications by participating in important international and domestic scientific conferences, engaging in expert groups (court expert in the field of geodesy) and international cooperation with scientists from Lithuania, Ukraine, Bulgaria, the Czech Republic, Germany, Turkey and Georgia.

Name and surname: Bartosz Mitka
Academic title/degree: dr hab. inż. Field: engineering and technical sciences Discipline: Civil Engineering, Geodesy and Transport Year of obtaining the title/degree: 2018
<i>List of classes and hours taught in the assessed field</i> PhD thesis supervisor
<i>Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects.</i> Author and co-author of several dozen publications in the fields of photogrammetry and terrestrial laser scanning (TLS). Research interests: modern techniques for acquiring and processing geospatial data, in particular digital photogrammetry (including close-range photogrammetry, CRP) and terrestrial laser scanning (TLS), as well as the integration of data from heterogeneous sources. Principal investigator and performer of R&D tasks in research and development projects funded from external sources. Ongoing collaboration with commercial companies and cultural institutions in implementing close-range photogrammetry (CRP) and laser scanning solutions.
<i>List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years)</i> 1) Artur Wójcik, Przemysław Kłapa, Bartosz Mitka , Izabela Piech, The use of TLS and UAV methods for measurement of the repose angle of granular materials in terrain conditions Measurement, Volume 146, November 2019 , Pages 780-791 DOI: 10.1016/j.measurement.2019.07.015 2) Jarosław Janus, Piotr Bożek, Bartosz Mitka , Jarosław Taszakowski, Arkadiusz Doróż Long-term forest cover and height changes on abandoned agricultural land: An assessment based on historical stereometric images and airborne laser scanning data, Ecological Indicators 120 (2021) 106, https://doi.org/10.1016/j.ecolind.2020.106904 3) G. Szewczyk, Kraj, B. Mitka , P. Bożek, P. Tylek, The impact of platform mounting systems used in rope parks on tree vitality, Forestry: An International Journal of Forest Research, 2023 https://doi.org/10.1093/forestry/cpad054 4) Bartosz Mitka , Przemysław Kłapa, Pelagia Gawronek, Laboratory Tests of Metrological Characteristics of a Non-Repetitive Low-Cost Mobile Handheld Laser Scanner, Sensors 2024 , 24(18), 6010; https://doi.org/10.3390/s24186010 5) Bartosz Mitka , Przemysław Kłapa, Piotr Pióro, Acquisition and Processing Data from UAVs in the Process of Generating 3D Models for Solar Potential Analysis Analysis. Remote Sens. 2023 , 15, 1498. https://doi.org/10.3390/s15061498 6) Bartosz Mitka , Przemysław Kłapa, Maria Makuch: Przyrząd pomiarowy do integracji danych pochodzących z naziemnego skaningu laserowego (TLS) i bezzałogowych

statków powietrznych (UAV), Wynalazek, Chroniony, Numer patentu/prawa: Pat.235753, Data zgłoszenia: 29-01-2018, Data udzielenia (decyzji): 24-04-2020

7) **Mitka Bartosz**, Szelest Igor, Szelest Paweł: Sposób separacji obiektów z tła dla obrazów cyfrowych z wykorzystaniem światła spolaryzowanego i stanowisko do separacji obiektów z tła dla obrazów cyfrowych z wykorzystaniem światła spolaryzowanego, Wynalazek, Chroniony, Numer zgłoszenia (w pierwszym kraju zgłoszenia powyżej): P.404917, Numer patentu/prawa: 230397, Data zgłoszenia (w pierwszym kraju zgłoszenia powyżej): 30-07-2013, Data udzielenia (decyzji): 12-06-2018

8) **Bartosz Mitka**, Piotr Bożek, Zestaw elementów pomiarowych dla opracowań fotogrametrycznych obiektów walcowych. Wzór użytkowy, Zestaw elementów pomiarowych dla opracowań fotogrametrycznych obiektów walcowych, chroniony, Numer patentu/prawa: Ru072557, Data zgłoszenia: 24-02-2021, Data udzielenia (decyzji): 12-01-2022

9) **Bartosz Mitka**, Przemysław Kłapa: Podstawa poziomująca dla kul referencyjnych do orientacji pomiarów z naziemnego skaningu laserowego i bezzałogowych statków powietrznych, Wzór użytkowy, Chroniony, Numer patentu/prawa: Ru072387, Data zgłoszenia: 05-06-2020, Data udzielenia (decyzji): 14-10-2021

10) Kierownik Projektu w ramach programu Inkubator Innowacyjności 2.0 realizowanego w ramach projektu pn. „Wsparcie zarządzania badaniami naukowymi i komercjalizacja wyników prac B+R w jednostkach naukowych i przedsiębiorstwach” w ramach Programu Operacyjnego Inteligentny Rozwój 2014-2020 (Działanie 4.4).

*Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision*

- Supervisor of 55 engineering theses.
- Supervisor of 61 master's theses.
- Advisor for numerous student conference papers (including award-winning) within the Geodesy Student Research Group.
- Auxiliary supervisor in four completed PhD theses.
- Auxiliary supervisor of one doctoral candidate enrolled in the Doctoral School.
- Supervisor of two doctoral candidates enrolled in the Doctoral School.
- Coordinator and lecturer of courses in photogrammetry, close-range photogrammetry (CRP), terrestrial laser scanning (TLS), and 3D modeling.
- Supervisor of doctoral research internships carried out at the University of Agriculture in Krakow.

A list of up to 10 most important teaching achievements, including the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students under the teacher's academic supervision/teaching classes in a foreign language, including in connection with researcher mobility, supervision of a research club, other

- 1) **Mitka Bartosz**, Piech Izabela: Fotogrametria cyfrowa: fotogrametryczne opracowanie naziemne i lotnicze dla studentów geodezji Uniwersytetu Rolniczego w Krakowie, 2019, Uniwersytet Rolniczy im. Hugona Kołłątaja w Krakowie, ISBN 978-83-64758-77-5, 123 pp.; monograph.
- 2) Advisor to the Geodesy Student Research Group, 2017–2021.
- 3) Advisor to the Photogrammetry Section of the Geodesy Student Research Group, 2011–present.
- 4) On 7 February 2020 in Warsaw, the GeoAzymuty poll organized by geodesy students was concluded; the Geodesy Student Research Group of the University of Agriculture in Krakow received the GeoAzymut award in the “Geodetic Event” category.
- 5) 13th National Conference of Geodesy Students — Photogrammetry Section of the Geodesy Student Research Group, University of Agriculture in Krakow; scientific supervisor: Bartosz Mitka, PhD Eng.; authors: Piotr Bożek, MSc Eng.; Magdalena Iwanowska, Eng.; Michał Szczypka; 1st place — poster, “Comparative analysis of methods for obtaining Digital Terrain Models (DTMs) based on the quarry in Lutowska.”

Description of professional experience in relation to educational objectives, learning outcomes for the assessed area and programme content (up to 600 characters)

Habilitated doctor of technical sciences in the discipline of geodesy and cartography, specializing in photogrammetry and remote sensing. He holds extensive professional experience—attested by national professional licenses—gained over many years in photogrammetric companies, including managerial roles. He specializes in close-range digital photogrammetry (CRP) and terrestrial laser scanning (TLS). Since the outset of his professional career, his work has focused on close-range photogrammetry, particularly the application of photogrammetric techniques and TLS to the inventory, digitization, and visualization of buildings and structures across a range of scales.

Improving qualifications and competences in the field of his own scientific or artistic development, as well as scientific or artistic supervision of doctoral students, and promotional and organisational activities (up to 600 characters)

- Participation in specialist training in the operation of surveying software and measurement equipment.
- Participation within the “Geointegration” Research Collaboration Platform in workshops for doctoral candidates and supervisors:
 - HackathonGeoAI, 21–24 November 2024, Warsaw, Warsaw University of Technology.
 - Workshop: Remote Sensing and Data Processing, 8–10 May 2025, Krakow, AGH University of Krakow.
- Coordinator of the Małopolska Researchers’ Night at the Faculty of Environmental Engineering and Geodesy (WIŚiG), University of Agriculture in Krakow (URK).
- Rector’s Plenipotentiary for Unmanned Aerial Vehicles (UAV).

- Member of the jury for the President of the Polish Space Agency Award for the best thesis in the field of space research, 2024–2025.

Wersja językowa angielska	
Imię i nazwisko Tomasz Salata	
Tytuł naukowy/stopień naukowy doktor habilitowany, profesor uczelni	
Dziedzina engineering and technical sciences (civil engineering)	
Dyscyplina civil engineering, geodesy and transport	
Rok uzyskania tytułu/stopnia 2019	
Wykaz zajęć i godzin zajęć prowadzonych na ocenianym kierunku	
I do not teach any classes	
Charakterystyka dorobku naukowego ze wskazaniem dziedzin/dyscyplin naukowych, w której dorobek się mieści (do 600 znaków) w tym pozyskiwanie grantów i kierowanie projektami finansowanymi z grantów. My scientific activity is related to the discipline of civil engineering, geodesy and transport (within the field of engineering and technical sciences) and focuses primarily on: the application of GIS in analyses of agricultural production space and environmental protection; GIS applications in spatial policy, spatial planning and land use management, cultural landscape and spatial order; conducting conceptual research for the development of spatial information systems; and the use of GIS tools in hydrological studies.	
Wykaz co najwyżej 10 najważniejszych osiągnięć naukowych (publikacji/patentów/projektów badawczych/nagród) z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat) 1. Helfenstein, J., Hepner, S., Kreuzer, A., Achermann, G., Williams, T., Bürgi, M., Debonne, N., Dimopoulos, T., Diogo, V., Fjellstad, W., Garcia-Martin, M., Hernik, J., Thanasis, K., Lausch, A., Levers, C., Liira, J., Mohr, F., Moreno, G., Pazur, R., i in. (2024). Divergent agricultural development pathways across farm and landscape scales in Europe: Implications for sustainability and farmer satisfaction. <i>Global Environmental Change-Human and Policy Dimensions</i>, Article 86. https://doi.org/10.1016/j.gloenvcha.2024.102855 2. Król, K., Kukulska-Kozieł, A., Cegielska, K., Salata, T., & Hernik, J. (2024). Turbulent Events Effects: Socioeconomic Changes in Southern Poland as Captured by the LSED Index. <i>Sustainability</i>, 16, Article 1. https://doi.org/10.3390/su16010038 3. Hernik, J., Linke, H. J., Król, K., Salata, T., Kukulska-Kozieł, A., & Cegielska, K. (2024). Artificial Intelligence and Geodata for Local Community Sensibilization to Sustainable Spatial Development. W K. S. Soliman (Redaktor), <i>Artificial intelligence and Machine Learning</i>. https://doi.org/10.1007/978-3-031-62843-6_4 4. Cegielska, K., & Salata, T. (2023). A multimetric approach to anthropogenic pressure analyses: A tool for measuring and mapping the human impact on the landscape. <i>Land Degradation & Development</i>, 34, Article 17. https://doi.org/10.1002/ldr.4845 5. Hernik, J., Linke, H. J., Król, K., Salata, T., Kukulska-Kozieł, A., & Cegielska, K. (2023). Artificial Intelligence and Geodata for Local Community Sensibilization to Sustainable Spatial Development. W K. S. Soliman (Redaktor), <i>Proceedings of the 41st International Business Information Management Association Computer Science Conference (IBIMA) : Theory and Practice in Modern Computing: From</i>	

Artificial Intelligence to Computer Security.

<https://doi.org/10.6084/m9.figshare.23925030>

6. Prus, B., Wilkosz-Mamcarczyk, M., & Salata, T. (2020). Landmarks as Cultural Heritage Assets Affecting the Distribution of Settlements in Rural Areas—An Analysis Based on LIDAR DTM, Digital Photographs, and Historical Maps. *Remote Sensing*, 12, Article 11. <https://doi.org/10.3390/rs12111778>
7. Wałęga, A., & Salata, T. (2019). Influence of land cover data sources on estimation of direct runoff according to SCS-CN and modified SME methods. *Catena*, Article 172. <https://doi.org/10.1016/j.catena.2018.08.032>
8. Cegielska, K., Kukulska-Kozieł, A., Salata, T., Piotrowski, P., & Szylar, M. (2019). Shannon entropy as a peri-urban landscape metric: concentration of anthropogenic land cover element. *Journal of Spatial Science*, 64, Article 3. <https://doi.org/10.1080/14498596.2018.1482803>
9. Autor i współautor 79 oryginalnych prac naukowych; Indeks Hirscha 8, cytowania 188 (WoS)
10. Research team member in the project “Artificial Intelligence and Geodata for Raising Awareness of Local Communities for Sustainable Spatial Development (GeoSen)” in the 4th Polish-German Bilateral Cooperation Call: Digital GreenTech for Smart Villages, funded by the National Centre for Research and Development (NCBR), 2022–2024

Charakterystyka doświadczenia i dorobku dydaktycznego (do 600 znaków). Kompetencje w zakresie opieki naukowej lub artystycznej

I have been teaching since 1998. I served as the supervisor of one doctoral dissertation, the assistant supervisor of two doctoral dissertations, and the supervisor of a total of 201 engineering and master’s theses. I organized two international scientific conferences in the Land-Technology-Economy series. I have also been a speaker at numerous national and international conferences..

Wykaz co najwyżej 10 najważniejszych osiągnięć dydaktycznych z podaniem nazwy oraz roku przyznania (ze szczególnym uwzględnieniem ostatnich 5 lat), np. autorstwo podręczników, materiałów dydaktycznych, wdrażane innowacje dydaktyczne/nagrody uzyskane przez studentów nad którymi nauczyciel sprawował opiekę naukową/prowadzenie zajęć w języku obcym, w tym w związku z mobilnością naukowca, opieka nad kołem naukowym, inne

1. I applied the research conducted in my habilitation dissertation (Salata, T. (2019). The concept of a standardized method for determining built-up areas. In: Scientific Papers of the University of Agriculture in Krakow. Dissertations (No. 426; Vol. 549, p. 172). Hugo Kołłątaj University of Agriculture in Krakow) to the development of the syllabus for a course in the Spatial Management programme.
2. I supervised the doctoral dissertation of Katarzyna Cegielska titled “The Concept of a Multimetric Anthropopression Index Developed in a GIS Environment,” defended on June 9, 2021, which received the Award of the Minister of Development, Labour and Technology in the field of geoinformation in the doctoral dissertations category (4th edition of the competition), awarded on June 24, 2022.
3. From 2014 to 2022, I was the supervisor of the LOCUS Spatial Management Student Research Group.

4. I am the author of unique curricula for several courses taught to students at the University of Agriculture in Krakow.
5. I developed the master's programme (second-cycle studies) in Spatial Management with a specialization in Geoinformation.
6. I co-developed the study programme for the Geodesy and Cartography field at both first- and second-cycle levels.
7. I co-developed the study programme for the Geoinformatics field at the first-cycle level.

Opis doświadczenia zawodowego w powiązaniu z celami kształcenia, efektami uczenia się zakładanymi dla ocenianego obszaru oraz treściami programowymi (do 600 znaków)

Work with doctoral students covers topics related to the dissemination of scientific research results, obtaining funding for research activities, and editing scientific publications. Both the learning objectives and the course content are directly linked to my scientific achievements, experience in acquiring research funding, and participation in research projects. An important complement to this is my many years of experience in conveying practical knowledge in the field of geographic information systems, both in conceptual and implementation contexts. My extensive cooperation with the GIS sector confirms that I possess the appropriate professional competences to conduct doctoral training in these areas.

Podnoszenia kwalifikacji i kompetencji zarówno w zakresie własnego rozwoju naukowego lub artystycznego, jak i opieki naukowej lub artystycznej nad doktorantami oraz działalność promocyjna i organizacyjna (do 600 znaków)

Despite my extensive teaching experience, I continuously enhance my qualifications by participating in GIS and IT training courses, organized mainly in Poland by leading companies such as GIS Support Sp. z o.o., EnviroSolution Sp. z o.o., and CENAGIS (Warsaw University of Technology).

Language version: English
Full name: Monika Siejka
Academic title/degree: dr hab. inż. Field: engineering and technical sciences Discipline: Civil Engineering, Geodesy and Transport Year the title/degree was obtained: 2018
List of classes and hours taught in the assessed field PhD thesis supervisor
Characteristics of scientific achievements with an indication of the scientific fields/disciplines in which the achievements fall (up to 600 characters), including obtaining grants and managing grant-funded projects. My scientific achievements are related to the disciplines of civil engineering, geodesy, and transport (a field of engineering and technical sciences). My research focuses on real estate management in the context of implementing the principles of sustainable development and covers the following topics: multifunctional geospatial data acquisition systems, real estate valuation, spatial analysis of real estate markets using data mining techniques and multi-criteria decision analysis methods, the quality of spatial data contained in official databases, the construction of a multidimensional cadastre model, and the use of modern measurement techniques for acquiring spatial data.
List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with titles and years (with particular emphasis on the last 5 years). 1) Klapa, P., Siejka, M., & Piaseczna, K. (2025). Synergy of BIM, GIS, and open-access geospatial data in 3D modelling for property management. <i>Reports on Geodesy and Geoinformatics</i>, 120, 40–55. https://doi.org/10.2478/rgg-2025-0015. 2) Mika, M., Siejka, M., Stręk, Ż., & Hudecová, Ľ. (2024). General problems of the cadastre system - case study in Poland. <i>Acta Scientiarum Polonorum, Administratio Locorum</i>, 23, Article 2. https://doi.org/10.31648/aspal.9641. 3) Leń, P., Maciąg, M., Siejka, M., Maciąg, K., Kocur-Bera, K., & Rapiński, J. (2024). A New Method for Assessing Land Consolidation Urgency, including Market Value. <i>Sustainability</i>, 16, Article 2. https://doi.org/10.3390/su16020835 4) Kocur-Bera, K., Rapiński, J., Siejka, M., Leń, P., & Małek, A. (2023). Potential of an Area in Terms of Pro-Climate Solutions in a Land Consolidation Project. <i>Sustainability</i>, 15, Article 12. https://doi.org/10.3390/su15129306. 5) Noga, K., Sikora, A., Siejka, M., Natividade-Jesus, E., Moreira, C., & Skrzypczak, I. (2023). Identification of land system transformations in the Rzeszów city square. <i>Archives of Civil Engineering</i>, 69, Article 2. https://doi.org/10.24425/ace.2023.145287. 6) Siejka, M. (2020). The Use of AHP to Prioritize Five Waste Processing Plants Locations in Krakow. <i>ISPRS International Journal of Geo-Information</i>, 9, Article 2. https://doi.org/10.3390/ijgi9020110.

- 7) Lipka, K., Siejka, Z., & **Siejka, M.** (2022). Peat Thickness Changes at the “Wotosate” Raised Bog in the Western Bieszczady Mountains. *Water*, 14, Article 22. <https://doi.org/10.3390/w14223659>.
- 8) Kotlarz, P., **Siejka, M.**, & Mika, M. (2020). Assessment of the accuracy of DTM river bed model using classical surveying measurement and LiDAR: a case study in Poland. *Survey Review*, 52, Article 372, <https://doi.org/10.1080/00396265.2019.1696515>.
- 9) Carrier for a prismatic reflector integrated with a target plate for a wall benchmark. **Siejka Monika**, Godek Klemens, Invention, Protected, Application number (in the first country of filing above): 413360, **Patent**/right number: **225730**, Filing date (in the first country of filing above): 31-07-2015, Date of right grant: 04-11-2016, Patent/design publication: [WUP 31-05-2017]. Invention commercialization 2019.

Characteristics of teaching experience and achievements (up to 600 characters).
Competences in scientific or artistic supervision

I have been teaching students since 1996. I supervised a doctoral dissertation completed in 2024 and supervised 120 master's theses and 30 engineering theses.

List of up to 10 most important teaching achievements, with titles and years (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations, awards obtained by students under the teacher's supervision, teaching in a foreign language (including in connection with academic mobility), supervision of a student research group, others.

- 1) Co-author of the textbook, Piasek Z., Więch (**Siejka**) **M.** 1998. Methods of land property valuation in flood zones of mountain rivers and streams. Textbook for students of Technical Higher Schools. Series of Scientific and Didactic Publishing Houses. Kraków. pp. 71.
- 2) Co-author of a chapter in the book: **Siejka M.**, Siejka Z. 2007. Chapter VII "Poligonization" in the collective work: Geodesy in Environmental Management. A book for students of environmental engineering, geodesy, spatial management, and civil engineering. Published by Pikador, Nowy Sącz. pp. 139-182.
- 3) Co-author of the Master's degree program for the Geodesy and Cartography major, specializing in Cadastre and Real Estate Valuation.
- 4) Co-author of the (engineer) degree programs for the Spatial Management major.
- 5) Author of teaching materials for students of Geodesy and Cartography and Spatial Management.
- 6) Author of the teaching programs for students of the University of Agriculture in Krakow.

Description of professional experience in relation to the educational objectives, intended learning outcomes for the evaluated area and programme content (up to 600 characters).

I hold professional license in real estate valuation. Within this framework, I am a co-executor and consultant on tasks related to determining compensation for land seized for public investment projects and regulating the legal status of land seized for public roads.

Improving qualifications and competencies, both in terms of personal scientific or artistic development and in terms of scientific or artistic supervision of doctoral students, as well as promotional and organisational activities (up to 600 characters).

I regularly attend national and international scientific and technical conferences (e.g., FIG, TNN) organized by academic institutions, and I also participate in seminars and training courses for property appraisers. I am a member of the Polish Academy of Sciences' Committee on Geodesy, a member of the Real Estate Scientific Society (TNN), a member of the Polish Federation of Real Estate Appraisers' Associations, a member of the Malopolska Association of Real Estate Experts, and a member of the Institute of Real Estate Market Monitor mrn.pl.

Language version: English
Full name: Marek Ślusarski
Academic title/degree: habilitation degree Field: engineering and technical sciences Discipline: civil engineering, geodesy and transport Year the title/degree was obtained: 2018
List of courses and teaching hours delivered in the evaluated programme
Description of scientific output, indicating the scientific fields/disciplines to which it belongs (up to 600 characters), including acquisition of grants and leadership of grant-funded projects. The scientific output is related to the discipline of civil engineering, geodesy and transport (field of engineering and technical sciences). The output concerns the analysis of data quality in geoinformation databases and the investigation of inconsistency errors in official databases.
List of up to 10 most important scientific achievements (publications/patents/research projects/awards) with titles and years (with particular emphasis on the last 5 years). 1) Przewięźlikowska, A., Ślusarczyk, W., Wójcik, K., & Ślusarski, M. (2025). Efficient and scalable architecture for location-based mobile applications using metrika. Automation in Construction, 172, 1–15. 2) Ślusarski, M. , & Przewięźlikowska, A. (2025). Assessing the Risk of Damage to Underground Utilities Caused by Spatial Data Quality with Fuzzy Logic. Applied Sciences-Basel, 15. 3) Ślusarski, M. , & Przewięźlikowska, A. (2024). Risk assessment for underground utility damage due to spatial data quality. Archives of Civil Engineering, 70. 4) Ślusarski, M. (2023). Harmonisation of the EGIB, GESUT and BDOT500 conceptual models with the BDOT10k database in terms of data quality and supply. Geomatics, Landmanagement and Landscape. 5) Zygmunt, M., Michałowska, K., & Ślusarski, M. (2023). The point location problem on the example of determining map identification number and map sheet extent in the IMW system. Geomatics, Landmanagement and Landscape. 6) Ślusarski, M. (2022). Methods of revaluation of former geodetic measurement networks. Geomatics, Landmanagement and Landscape, 7. 7) Ślusarski, M. , & Jurkiewicz, M. (2020). Visualisation of Spatial Data Uncertainty. A Case Study of a Database of Topographic Objects. ISPRS International Journal of Geo-Information, 9,
Description of teaching experience and achievements (up to 600 characters). Competences in scientific or artistic supervision I have been teaching university courses since 1992. I have served as auxiliary supervisor for 2 doctoral theses and as supervisor for 113 master's theses and 125 engineering (BSc) theses.

List of up to 10 most important teaching achievements, with titles and years (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations, awards obtained by students under the teacher's supervision, teaching in a foreign language (including in connection with academic mobility), supervision of a student research group, others.

1. Co-author of study programmes (master's and engineering) for the geodesy and cartography degree programme.
2. Author of teaching materials for students of the geodesy and cartography and spatial management degree programmes.
3. Author of course syllabi for students of URK (University of Agriculture in Krakow).

Description of professional experience in relation to the educational objectives, intended learning outcomes for the evaluated area and programme content (up to 600 characters).

I hold professional licences to perform independent functions in the field of geodesy and cartography. Within the scope of these licences, I act as a co-executor and consultant for a wide range of geodetic works (including, among others, the modernisation of district geodetic databases).

Improving qualifications and competencies, both in terms of personal scientific or artistic development and in terms of scientific or artistic supervision of doctoral students, as well as promotional and organisational activities (up to 600 characters).

I am a regular participant in scientific and scientific-technical conferences organised by various academic institutions.

Wersja językowa polska oraz angielska	
Imię i nazwisko	Stanisław Bacior
Academic Title/Degree: PhD, DSc, Eng., Professor, URK Field: Engineering and Technical Sciences Discipline: Civil Engineering, Geodesy, and Transportation 75%, Environmental Engineering, Mining, and Energy 25% Year of Award: 2020	
List of classes and class hours in the assessed program Preparation for professional certification (lecture 10 hours, Exercise 30) Maps for legal purposes (lecture 10 hours, Exercise 30) Real estate divisions and demarcations (lecture 10 hours, Exercise 15) Elements of the land and building register (lecture 10 hours, Exercise 15) Acquiring rights to real estate in court proceedings (lecture 15 hours, Exercise 30) Cadastral surveying (lecture 10 hours, Exercise 15)	
A description of scientific achievements, indicating the scientific fields/disciplines in which the work falls (up to 600 characters), including grant acquisition and management of grant-funded projects. Scientific achievements are related to the disciplines of civil engineering, geodesy, and transportation (75% and 100%), and environmental engineering, mining, and energy (25%). Research focuses on three main research areas. The first concerns the impact of highways on agricultural land; the second concerns the optimization of farm land layouts; and the third concerns real estate management, land cadastre, divisions and demarcations, and mapping for legal purposes. List of grants from the last five years: 1. Project coordinator from October 1, 2018 to December 31, 2019: "Internship Program for Students of Geodesy and Cartography at the University of Agriculture in Krakow" POWR.03.01.00-00- S089/17, implemented by the Hugo Kołłątaj University of Agriculture in Krakow, financed by the European Union under the European Social Fund under Priority Axis III "Higher education for economy and development" of the Knowledge Education Development Operational Program, Measure 3.1 "Competences in higher education." 2. Main contractor of the grant financed by the "Excellent Science" program of the Minister of Science and Higher Education, Project registration no. DNM/SP/466153/2020, entitled "Scientific Experiences in Surveying Practice," implemented in 2019-2021, project title: Demarcation Procedures: Theoretical Aspects and Practical Examples. 3. Manager of the "New Highways" innovation grant from January 2021 as part of the second edition of the Innovation Incubator program. 4. Manager of the Social Responsibility of Science / Excellent Science, Support for Scientific Monographs grant implemented in 2022-2024, project title: Property Divisions in Theory and Practice. Project registration number: DNM/SP/549172/2022	
A list of at most 10 of the most important scientific achievements (publications/patents/research projects/awards) with the name and year of award (with particular emphasis on the last 5 years) Publications	

- 1) Bacior S. 2021 Historical maps of the Galician land cadastre – geodetic cultural heritage of Małopolska. In: Catalog of cultural heritage of Małopolska / Hernik Józef, Prus Barbara, Król Karol (eds.), 2021, Kraków, Wydawnictwo Hugo Kołłątaj University of Agriculture in Krakow, pp. 331-344, ISBN 978-83-66602-23-6
- 2) Prus B., Dudzińska M., Bacior S., Determining and quantifying the historical traces of spatial land arrangements in rural landscapes of Central and Eastern Europe Scientific Reports, 2021, vol. 11, no. 1, pp. 1-16, Article number: 23421
- 3) Bacior S., Chmielowski K., Prus B. Assessment of Motorway Impact on Agricultural Land with a Simplified Method and GIS Data as a Tool for Selecting the Optimal Route Sustainability, 2022, vol. 14, no. 24, pp. 1-13. DOI 10.3390/su142416410
- 4) Bacior S., Austrian Cadastre still in use - Example proceedings to determine the legal status of land property in southern Poland. Land Use Policy, 2023, vol. 131, pp. 1-20, Article number: 106740.
- 5) Dudzińska M., Prus B., Bacior S., Premises for locating industrial and warehouse sites - Evidence from the backyard of Europe's Green Lungs. Land Degradation & Development, 2024, vol. 35, no. 16, pp. 4766-4780.

Books

- 6) Bacior S.: Optimization of rural land systems - experimental studies. Scientific Papers of the Hugo Kołłątaj University of Agriculture in Krakow. Dissertations, vol. 551, no. 428, 2019, Kraków, University of Agriculture in Kraków, 176 pp., ISBN 978-83-66602-37-3
- 7) Bacior S., Hernik J., Prus B, 2021, Demarcation proceedings. Theoretical Aspects and Practical Examples, Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 208 pp., ISBN 978-83-66602-21-2
- 8) Bacior S., Prus B., 2022, Modeling the Route of a Motorway Using Modern Tools, Krakow, Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 175 pp., ISBN 978-83-66602-67-0
- 9) Bacior S., 2024, Real Estate Divisions in Theory and Practice, Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 253 pp., ISBN 978-83-66602-84-7
- 10) Chmielowski K., Bacior S., Gawroński K., Pijanowski J.: Holder verticalizing, Utility model, Application number: W.126976 [WIPO ST 10/C PL126976U] Michalec B., Bacior S., Cupak A.: Floating geodetic staff, Invention, Application number: P.427005

Description of teaching experience and achievements (up to 600 characters).

Competencies in the field of scientific or artistic supervision

I have been teaching since 1996. During my 29 years at the University of Agriculture in Krakow, I have taught the following subjects: Cadastral Geodesy Geodetic Management of Agricultural Land Real Estate Divisions and Demarcations Preparation for Professional Certifications Maps for Legal Purposes Elements of the Land and Building Register Acquiring Real Estate Rights in Court Proceedings

In my courses, I place particular emphasis on practical elements based on professional experience and my qualifications in surveying. I have developed my own curriculum for these subjects. I have supervised one doctoral dissertation. I have also supervised three doctoral dissertations (including two completed ones), and I have supervised 97 master's and 103 engineers. I have also been an invited speaker at scientific and industry conferences in Poland and abroad (including Bulgaria, Lithuania, the Czech Republic, and Turkey).

A list of at most 10 most important teaching achievements with the name and year of award (with particular emphasis on the last 5 years), e.g. authorship of textbooks, teaching materials, implemented teaching innovations/awards obtained by students supervised by the teacher/conducting classes in a foreign language, including those related to the researcher's mobility, supervision of a scientific club, other

Author's Books

1) **Bacior S.:** Optimization of Rural Land Systems - Experimental Studies. Scientific Papers of the Hugo Kołłątaj University of Agriculture in Krakow. Dissertations, vol. 551, no. 428, 2019, Krakow, Hugo Kołłątaj University of Agriculture in Krakow, 176 pp., ISBN 978-83-66602-37-3

2) **Bacior S.,** Hernik J., Prus B., 2021, Demarcation Proceedings. Theoretical Aspects and Practical Examples Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 208 pp., ISBN 978-83-66602-21-2

3) **Bacior S.,** Prus B., 2022, Modeling the Route of a Motorway Using Modern Tools, Krakow, Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 175 pp., ISBN 978-83-66602-67-0

4) **Bacior S.,** 2024, Real Estate Divisions in Theory and Practice Hugo Kołłątaj University of Agriculture Publishing House in Krakow, 253 pp., ISBN 978-83-66602-84-7

5) **Project Coordinator** in the period from 01/05/2016 to 31/12/2017 entitled "Professional Surveyor on the Labor Market" POWR.03.01.00-00-S242/15, implemented by the Hugo Kołłątaj University of Agriculture in Krakow, financed by the European Union under the European Social Fund under Priority Axis III "Higher education for economy and development" of the Knowledge Education Development Operational Programme, Measure 3.1 "Competences in higher education".

6) **Coordinator of the project** from October 1, 2018 to December 31, 2019, entitled "Internship program for students of the Geodesy and Cartography program of the University of Agriculture in Krakow" POWR.03.01.00-00-S089/17, implemented by the Hugo Kołłątaj University of Agriculture in Krakow, Hugo Kołłątaj University of Applied Sciences in Kraków, financed by the European Union through the European Social Fund under Priority Axis III "Higher education for economy and development" of the

Knowledge Education Development Operational Programme, Measure 3.1
"Competences in higher education."

7) Ministry of Agriculture of the Land of Thuringia, as part of the project: "Modern academic education in water and wastewater management in rural areas." Project no.: PL/07/LLP-LdV/VETPRO/140487, 2008.

8) Participation in the Leonardo da Vinci Lifelong Learning Programme, Project No. PL/09/LLP-LdV/VETPRO/140472.

9) Participation in the Leonardo da Vinci Lifelong Learning Programme, Project No. 2010-1-PL1-LEO03-10109.

Description of professional experience in relation to the learning objectives, learning outcomes assumed for the area being assessed and the program content (up to 600 characters)

Since July 2000, I have been running the Geodetic Services Company "GEO-MEDIA-MAŁOPOLSKA." The company provides a full range of geodetic services, covering southeastern Poland. Since June 23, 2008, I have also served as a court-appointed expert in geodesy at the District Court in Kraków. During my 17 years of experience, I have prepared over 3,500 opinions and expert reports for the District Court in Kraków, the District Court for Kraków Śródmieście, the District Court for Kraków Podgórze, the District Court for Kraków Nowa Huta, the District Court for Kraków Krowodrza, the District Court in Sucha Beskidzka, the District Court in Bochnia, the District Court in Brzesko, the District Prosecutor's Office in Sucha Beskidzka, the Provincial Police Headquarters in Kraków, and others. My activities focus on disseminating scientific research results, raising funds for scientific research, and editing scientific publications. Both the educational objectives and the course content are closely linked to my academic achievements, experience in obtaining research funding, and managing research projects. Equally important is my extensive, long-standing experience in imparting knowledge based on my professional experience as a licensed surveyor and a court-appointed expert in geodesy since 2008.

Raising qualifications and competences both in terms of one's own scientific or artistic development, as well as scientific or artistic supervision of doctoral students and promotional and organizational activities (up to 600 characters)

Despite my extensive teaching experience, I am constantly improving my professional qualifications by participating in important international and domestic scientific conferences, engaging in expert groups (court expert in the field of geodesy) and international cooperation with scientists from Lithuania, Ukraine, Bulgaria, the Czech Republic, Germany, Turkey and Georgia.

**Recruitment Committee for the Doctoral School
for the 2025/2026 Academic Year**

- Prof. Zygmunt M. Kowalski, DSc, Eng. – Chair
- Prof. Janina Gospodarek, DSc, Eng.
- Prof. Wojciech Jagusiak, DSc, Eng.
- Arkadiusz Stańczykiewicz, DSc, Eng., Assoc. Prof. URK
- Sławomir Pietrzyk, DSc, Eng., Assoc. Prof. URK
- Katarzyna Hura, DSc, Eng., Assoc. Prof. URK
- Dariusz Młyński, DSc, Eng., Assoc. Prof. URK
- Marek Ślusarski, DSc, Eng.
- Michał Cupiał, DSc, Eng., Assoc. Prof. URK
- Dagmara Zuzek, DSc, Eng., Assoc. Prof. URK
- Ewelina Węsierska, DSc, Eng., Assoc. Prof. URK
- Alicja Matera, MSc, Eng. – PhD Students' Representative
- Joanna Krużel, PhD, Eng. – Secretary

Membership of the Recruitment Committee for the Doctoral School (SD) of the University of Agriculture in Krakow (URK)

Justification

In accordance with the Regulations of the Doctoral School and the Recruitment Rules, the Recruitment Committee (KR) is appointed annually by the Rector of URK in June of each year. The Committee serves for one year and is responsible for carrying out the recruitment of doctoral candidates.

The KR includes representatives of all 10 disciplines present in the Doctoral School of URK. These representatives are the chairs of the qualification panels appointed by the discipline councils to conduct the final stage of the recruitment process—the interviews with candidates. In cases where there are two or more panels within a given discipline, the Committee member is designated by the Director of the Doctoral School in consultation with the Discipline Coordinator.

The Committee is chaired by the Director of the Doctoral School.

The KR also includes a representative of the doctoral students, nominated by the Doctoral Students' Council of URK.

Such a membership of the Committee ensures equal treatment of candidates applying for admission in each scientific discipline.

**Resolution No. 1/2024
of the Senate of the Hugo Kołłątaj University of Agriculture in Kraków
of 12 January 2024**

Concerning: an amendment to the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków

In an open vote, the Senate adopted Resolution No. 1/2024 with the following wording:

Pursuant to Article 205(2) of the Act of 20 July 2018 – Law on Higher Education and Science (consolidated text: Journal of Laws of 2023, item 742, as amended), in connection with § 18(1)(9) of the University Statute of 28 June 2021 (consolidated text of 20 December 2023),

upon the motion of the Rector, following consultation with the Doctoral Students' Self-Government,

- 1. The Senate of the Hugo Kołłątaj University of Agriculture in Kraków amends Senate Resolution No. 23/2023 of 29 March 2023 on the adoption of the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków – as follows:**
 - 1. in § 7 of Annex No. 1 to Senate Resolution No. 23/2023, paragraph 5 is added, reading as follows:**
 - 5. At the request of the Director of the Doctoral School, the Rector may appoint a Deputy Director of the Doctoral School and define his/her responsibilities.**
- 2. This Resolution enters into force on the date of its adoption.**

Eligible voters: 40 members of the Senate;

Votes cast: 30.

Valid votes: 30, all in favour.

Chairman of the Senate

dr hab. inż. Sylwester Tabor, Prof. URK

Regulations of the Doctoral School

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Subject of the Regulations

§ 1

The Hugo Kołłątaj University of Agriculture in Kraków, hereinafter referred to as the University, is the entity operating the Doctoral School, established pursuant to the Act of 20 July 2018 – Law on Higher Education and Science and the University Statute.

§ 2

1. At the University, doctoral students pursue education at the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków, hereinafter referred to as the Doctoral School.
2. The Doctoral School is established by the Rector.
3. Whenever these Regulations refer to:
 1. the Act – this shall mean the Act of 20 July 2018, Law on Higher Education and Science, which defines the principles of doctoral education and the conditions for awarding the doctoral degree;
 2. the University – this shall mean the Hugo Kołłątaj University of Agriculture in Kraków;
 3. the Statute – this shall mean the Statute of the Hugo Kołłątaj University of Agriculture in Kraków, which defines the principles of organization and functioning of the University, including the rules for organizing education and conducting research;
 4. the Rector – this shall mean the single-person governing body of the University, whose competences include managing the University and issuing regulations and administrative decisions, including those concerning doctoral students;
 5. the Senate – this shall mean the collegial body of the University, representing the highest authority of its community, whose competences include adopting resolutions, including those relating to doctoral education;
 6. the semester – this shall mean the stage of education defined in the organization of the academic year, ending with the requirement to obtain all credits and examinations specified in the education program for this stage, and to settle tasks scheduled for implementation during this period, including those in the individual research plan;
 7. the university IT system – this shall mean the IT system used, among other things, for the management and documentation of education at the Doctoral School;
 8. the Regulations – this shall mean these Regulations of the Doctoral School.
4. The tasks of the Rector specified in the Regulations may, at the University, be carried out by a Vice-Rector holding a managerial position, whose responsibilities include matters related to doctoral education.

§ 3

1. The Regulations define the rules for organizing the education of doctoral students and the principles of operating the Doctoral School.
2. The Regulations specify in particular:

1. the organizational structure and scope of competences of the bodies of the Doctoral School;
 2. the rules for undertaking and resigning from education at the Doctoral School;
 3. the procedure for appointing and changing the supervisor, supervisors, or assistant supervisor;
 4. the procedure for preparing and evaluating the individual research plan and the method of conducting a mid-term assessment of its implementation, including the procedure for appointing and the principles of functioning of the committees carrying out such assessments;
 5. the procedures and criteria for evaluating progress in preparing the doctoral dissertation;
 6. the rules for passing the subjects provided for in the education program, including teaching practice where the obligation to undertake it arises from the program;
 7. the rules for submitting the doctoral dissertation, including the conditions for extending the submission deadline;
 8. the method of documenting the course of education.
3. The Regulations define the rights and obligations of the doctoral student, including the rules for granting leaves.
 4. The University's doctoral students form a doctoral student self-government. The representative body of all doctoral students of the University is the relevant doctoral student self-government body, hereinafter referred to as the doctoral student self-government, which operates in accordance with the Act, the Statute, and the regulations of the doctoral student self-government.
 5. Unless otherwise provided in the Regulations, applications (declarations, appeals, etc.) submitted by doctoral students should be submitted in writing, in electronic form (with a qualified electronic signature), in electronic form with a trusted or personal signature, in electronic form via email within the urk.edu.pl domain, or through the university IT system.
 6. In the case of applications for reconsideration of cases concerning administrative decisions and appeals against administrative decisions, the form specified in accordance with the Administrative Procedure Code shall apply.
 7. Unless otherwise stated in the Regulations or the Act, the deadlines established in the Regulations may be postponed or reinstated upon a justified request from the doctoral student, particularly due to health-related reasons.

Aims and Tasks

§ 4

1. The Doctoral School enables doctoral students to pursue interdisciplinary education and to acquire high research competencies and scientific independence within a specific scientific discipline, in accordance with the authorizations held by the University:
 1. in the field of agricultural sciences, in the scientific disciplines of:
 - forestry;
 - agriculture and horticulture;

- food technology and nutrition;
- animal science and fisheries;
- 2. in the field of engineering and technical sciences, in the scientific disciplines of:
 - civil engineering, geodesy and transport;
 - mechanical engineering;
 - environmental engineering, mining and energy;
- 3. in the field of social sciences, in the scientific discipline of economics and finance;
- 4. in the field of exact and natural sciences, in the scientific discipline of biological sciences;
- 5. in the field of veterinary sciences, in the discipline of veterinary science.
- 2. Education of doctoral students at the Doctoral School lasts 8 semesters. It is conducted based on education programs and an individual research plan, and concludes with the submission of the doctoral dissertation.

§ 5

1. The Doctoral School prepares the doctoral student for research and research-and-development work. It ensures the possibility for the doctoral student to develop their own creative initiatives.
2. In particular, the Doctoral School provides conditions for full participation in education and scientific research as well as in the life of the University and the academic community, including:
 1. education within an interdisciplinary education program, consisting of compulsory and elective classes;
 2. conducting independent scientific research in accordance with the individual research plan;
 3. preparing scientific publications by the doctoral student;
 4. preparing the doctoral dissertation under the supervision of a supervisor or supervisors, or a supervisor or supervisors and an assistant supervisor.
3. Education at the Doctoral School enables doctoral students to achieve learning outcomes appropriate to full qualifications at level 8 of the Polish Qualifications Framework, as referred to in the provisions on the Integrated Qualifications System, in the form of:
 1. advanced knowledge significantly influencing the development of the discipline related to the area of scientific research conducted, including the latest scientific achievements;
 2. skills related to the methodology and methods of conducting scientific research, as well as analysis and creative synthesis of scientific output, for identifying and solving research problems and creating new elements of this output;
 3. social competencies relating to scientific research activities and the social role of the scholar, including the ability to undertake challenges in the professional and public spheres with consideration of their ethical dimension.
4. The Doctoral School supports the development of the doctoral student and, in this respect:

1. is open to cooperation with other doctoral schools and enables doctoral students to participate in classes included in the education programs of those schools;
2. undertakes actions to promote the exchange of scientific ideas and cooperation in research teams, including international ones;
3. provides conditions for participation in the scientific community in Poland and abroad.

§ 6

In the event of discontinuation of education in a given discipline, the University ensures that doctoral students preparing a doctoral dissertation in that discipline may continue their education at another doctoral school in that discipline. If no such doctoral school exists, the University shall cover the costs of the doctoral procedure in the extramural mode for persons who have lost the possibility to complete their education.

Organizational Structure

§ 7

1. The Doctoral School is a university-wide unit.
2. The Doctoral School is managed by the Director of the Doctoral School.
3. The Doctoral School includes the Doctoral School Council.
4. The Director and the Doctoral School Council are appointed by the Rector, in accordance with the procedure specified in the Statute.

§ 8

1. The Director of the Doctoral School holds a managerial position at the University and is responsible for matters concerning doctoral students related to education at the Doctoral School.
2. In particular, the Director of the Doctoral School:
 1. chairs the Doctoral School Council;
 2. represents the unit within the University;
 3. submits motions to relevant University bodies in all matters concerning the unit;
 4. supervises the implementation of education programs at the Doctoral School;
 5. submits motions to relevant University bodies regarding activities related to the appointment and change of supervisor(s) and assistant supervisor, as well as the assessment of the progress of research and the doctoral dissertation conducted by doctoral students.
3. The Director organizes the work of the Doctoral School and, in this respect:
 1. ensures proper working conditions in the unit, particularly in accordance with occupational health and safety principles;
 2. ensures the proper and rational use of the unit's property, including by providing opportunities to use its infrastructure and assets;
 3. performs other activities provided for by law, the provisions of the Statute, as well as resolutions and ordinances of the University bodies.

4. After obtaining the opinion of the body specified in the Statute and the opinion of the doctoral student self-government, the Director of the Doctoral School submits to the Senate motions regarding the establishment, closing, and amendments to education programs at the Doctoral School.
5. After obtaining the opinion of the Doctoral School Council, the Director of the Doctoral School:
 1. submits to the Rector, by 31 December of a given year, an annual report on the activities of the Doctoral School;
 2. in consultation with the doctoral student self-government, submits motions to the Senate regarding amendments to the Regulations;
 3. prepares and submits to the Senate a draft of admission rules for the Doctoral School;
 4. prepares the Doctoral School for evaluation.
6. The Director is responsible for the financial management of the Doctoral School and, in this respect, is obliged to implement the University's material and financial plan.

§ 9

1. The Doctoral School Council exercises substantive supervision over the education of doctoral students. It serves as an advisory body to the Rector in matters carried out by the Doctoral School.
2. The tasks of the Council include, in particular:
 1. issuing opinions on the Regulations of the Doctoral School;
 2. developing a draft of the education programs in the Doctoral School;
 3. issuing opinions on the draft admission rules to the Doctoral School;
 4. issuing opinions on reports by the Director of the Doctoral School;
 5. issuing opinions on organizational changes within the Doctoral School;
 6. exercising substantive supervision over education in the Doctoral School and over the system of quality assurance of education at the Doctoral School.
3. The Doctoral School Council issues opinions on the assignment of classes to academic staff and other persons conducting education in the Doctoral School.
4. The Doctoral School Council initiates and undertakes actions to ensure high quality of education in the Doctoral School, in particular by evaluating the conducted classes and assessing the learning outcomes achieved by doctoral students.
5. The principles for evaluating the effectiveness of the University's quality assurance system are defined in the regulations on the University's education quality system.

§ 10

1. The administrative and organizational support of the Doctoral School is provided by the Doctoral School Secretariat.
2. The Doctoral School Secretariat also carries out tasks related to documenting the course of education in the Doctoral School.

Commencement of Education

§ 11

1. Admission to the Doctoral School is conducted through a competitive process, under the rules defined by the Senate. The results of the competition are public.
2. Admission to the Doctoral School is effected by entry into the list of doctoral students.
3. Refusal of admission to the Doctoral School is issued by administrative decision. A negative decision may be appealed by submitting a request for reconsideration of the case.
4. Commencement of education and the acquisition of doctoral student rights occurs at the moment of taking the oath. The wording of the oath is specified in the Statute.
5. Failure to take the oath within the designated deadline is equivalent to resignation from undertaking education at the Doctoral School.
6. A person may be a doctoral student in only one Doctoral School at a time.
7. No fees are charged for the education of doctoral students.
8. Education of a doctoral student concludes with the submission of the doctoral dissertation.

§ 12

1. At the University's Doctoral School, education may also be undertaken by:
 1. doctoral students from other doctoral schools – based on an agreement concluded between the University and the entity operating the School, under the rules defined in that agreement;
 2. international doctoral students, including those participating in international exchange programs, based on:
 - the decision of the minister,
 - international agreements, including those concluded by the University, under the rules defined in those agreements,
 - the decision of the Director of NAWA in relation to its scholarship holders,
 - the decision of the Director of NCN granting financial resources for the implementation of basic research in the form of a research project, internship, or scholarship awarded through a competitive process,
 - the administrative decision of the Rector.

Rights and Obligations of the Doctoral Student

§ 13

1. The doctoral student is obliged to act in accordance with the oath, these Regulations, and other generally applicable legal provisions and internal regulations in force at the University.
2. The doctoral student is obligated to uphold the principles of scientific ethics.
3. All rights and obligations of the doctoral student expire on the date of removal from the list of doctoral students.

4. For violations of the regulations in force at the University and for conduct unbecoming of a doctoral student, the doctoral student bears disciplinary responsibility as defined by separate regulations.

§ 14

1. The doctoral student has the right to:
 1. acquire knowledge as part of interdisciplinary education and develop their own scientific interests, including outside the University;
 2. receive scientific supervision and conduct research, as well as participate in research work carried out at the University;
 3. participate in national and international conferences related to the implementation of the individual research plan and doctoral dissertation;
 4. use the University's educational facilities, sports facilities, equipment and resources, as well as receive assistance from academic teachers and University authorities;
 5. join doctoral student organizations at the University under the rules defined in separate regulations;
 6. social insurance and universal health insurance under the rules defined in separate regulations;
 7. receive awards and distinctions; the rules for granting them are defined in a separate regulation;
 8. receive a doctoral scholarship under the rules defined in the Act;
 9. extend education at the Doctoral School under the rules defined in the Act;
 10. access personal data concerning themselves administered by the University, to correct and modify this data, and to exercise other rights arising from personal data protection regulations.
2. The doctoral student has the right to submit applications to the Director of the Doctoral School concerning their education at the School, including applications for a change of supervisor or assistant supervisor and a change of the deadline for submitting the doctoral dissertation.
3. With the consent of the Director of the Doctoral School, the doctoral student may:
 1. carry out part of their doctoral work outside the University;
 2. undertake national and international research internships.Obtaining consent requires the opinion of the supervisor or supervisors.
4. The doctoral student is entitled to participate in classes conducted at the University that are not included in the Doctoral School's curriculum, provided prior consent is obtained from the instructor.
5. The University unit in which the doctoral student conducts research provides support for the doctoral student's independent research work throughout their education at the Doctoral School, including during their stay abroad.

§ 15

1. The doctoral student may apply for accommodation in a student residence hall or for meals at the University's student cafeteria under the terms and procedures specified in the regulations for student benefits. Under the same

conditions, the doctoral student may apply for accommodation of their spouse, child, or personal assistant in the University residence hall.

2. The doctoral student may receive a student loan under the rules defined in the Act.

§ 16

1. The doctoral student should have an identifier for authors and co-authors of scientific publications – ORCID (Open Researcher and Contributor ID).
2. The responsibilities of the doctoral student include, in particular:
 1. implementation of the curriculum and individual research plan;
 2. participation in classes provided in the curriculum;
 3. preparation of the individual research plan in agreement with the supervisor or supervisors and submission of it to the Doctoral School's secretariat within the required deadline;
 4. conducting their own scientific research;
 5. submission of complete reports and applications within the required deadlines;
 6. participation or co-participation in the scientific and research work of the unit in which the individual research plan and doctoral dissertation are carried out;
 7. participation in scientific seminars at the University unit where the doctoral student conducts research;
 8. participation in scientific seminars organized at the University concerning issues relevant to the scientific discipline in which the doctoral dissertation is carried out;
 9. preparation and submission of the doctoral dissertation within the deadline specified in the doctoral student's individual research plan.
3. During the period of education, the doctoral student is required to:
 1. publish as author or co-author at least 2 works, including:
 - scientific articles published in a scientific journal or in peer-reviewed proceedings of an international conference, or in a scientific monograph, or
 - chapters in such a monograph published by a publishing house that, in the year of publication of the final form, was included in the list prepared in accordance with the provisions defined in the Act;
 2. prepare and submit at least 1 application for a research grant:
 - as part of a project, program, or competition announced by NAWA, NCBiR, NCN, or in an international competition for the implementation of a research project, or a research or teaching project financed from the European Union budget or by another grant-awarding entity.
4. The doctoral student is required to notify the Director of the Doctoral School in writing of any changes to personal data collected in the University's IT system immediately, but no later than within 1 month of the change.
5. In exceptional cases, the doctoral student may carry out their education under an individual study mode. Consent for this mode is granted, upon the doctoral student's request, by the Director of the Doctoral School after obtaining a positive opinion from the supervisor or supervisors, as well as the Doctoral School Council. The individual study mode may be carried out for no longer

than 2 semesters. The rules of the individual study mode for the doctoral student are defined by the Director of the Doctoral School.

§ 17

1. The doctoral student is entitled to rest breaks and leaves.
2. Rest breaks not exceeding 8 weeks per year should be taken during periods free from teaching activities and their dates agreed with the supervisor or supervisors.
3. At the request of the doctoral student, the Director of the Doctoral School suspends education for the period of maternity leave, maternity leave equivalent, paternity leave, and parental leave as defined in separate regulations.
4. The doctoral student may not be employed as an academic teacher or research staff. This prohibition does not apply to the employment of the doctoral student:
 1. for the purpose of carrying out a research project financed in competitions by NAWA, NCBiR, NCN, from the European Union budget, or by another grant-awarding entity;
 2. after a mid-term evaluation completed with a positive result, provided that in the case of employment exceeding half of the full-time working hours, the amount of the scholarship is 40% of the monthly scholarship amount referred to in section 4 point 2;
 3. who is not entitled to a doctoral scholarship.

§ 18

1. The doctoral student is required to perform tasks defined by the head of the University unit in which they conduct research as part of the individual research plan. The scope of this involvement should be agreed with the supervisor or supervisors.
2. Any absence of the doctoral student from classes specified in the curriculum or from the University unit where research is conducted must be immediately reported to the Director of the Doctoral School, as well as to the supervisor or supervisors and the head of the unit where the doctoral student conducts research.
3. Inability to participate in classes or implement the individual research plan due to health reasons should be appropriately documented, for example by submitting a relevant medical certificate within 7 days from the day of the absence or immediately if meeting this deadline is not possible.
4. In the case of prolonged absence, i.e., an absence longer than 1 month, the doctoral student is required to notify the Director of the Doctoral School of the inability to participate in classes within 14 calendar days, counting from the first day of the absence.

Doctoral Scholarship

§ 19

1. A doctoral student without a doctoral degree receives a doctoral scholarship, the total duration of which in doctoral schools may not exceed 4 years.
2. A doctoral student does not receive a doctoral scholarship if they receive remuneration of at least 150% of the amount of the doctoral scholarship to which they are entitled, due to employment in connection with the implementation by the University of a project, program, or competition announced by NAWA, NCBiR, NCN, or an international competition for the implementation of a research project; or a research or teaching project financed from European Union budget funds or by another grant-awarding entity, for the duration of such employment.
3. The period referred to in section 1 does not include:
 1. the suspension period referred to in §17 section 3;
 2. the period of education in the Doctoral School for persons who have lost the possibility of completing education, as referred to in § 6.
3. The doctoral scholarship is paid by the University.
4. The monthly amount of the doctoral scholarship is determined by the Rector. This provision does not apply to the amount of research scholarships covering doctoral scholarships awarded under agreements with funding entities.
5. The amount of the doctoral scholarship may not be lower than the amounts indicated in the Act and may depend on the achievements of the doctoral student.

§ 20

1. During the period of suspension of education, the rules for determining the amount of the doctoral scholarship apply accordingly to the rules for determining maternity allowance, except that the basis for calculating the allowance is considered to be the amount of the monthly doctoral scholarship referred to in the Act, due on the day the suspension request is submitted.
2. A doctoral student holding a disability certificate, a certificate of the degree of disability, or another certificate referred to in the regulations on vocational and social rehabilitation and employment of persons with disabilities receives a doctoral scholarship increased by 30% of the amount indicated in the Act.
3. A doctoral student who submits the doctoral dissertation earlier than the completion date of education provided for in the curriculum receives a doctoral scholarship until the date on which the education completion deadline expires, but no longer than for 6 months, subject to the total maximum period referred to in §19 section 1.

Education Program

§ 21

1. The Doctoral School provides education based on curricula including universal design, established by the Senate.
2. The curriculum determines in particular:
 1. the learning outcomes referred to in § 5 section 2, corresponding to the scientific disciplines within which doctoral education is conducted;
 2. courses, workshops, seminars and other activities that enable the achievement of the assumed learning outcomes, including courses expanding knowledge and skills:

- in the field of a specific scientific discipline, enabling the implementation of research and the use and creative development of methods, techniques and research tools necessary to solve problems or perform research-related tasks specific to that discipline;
 - in other scientific disciplines, enabling the creative identification and innovative solving of complex problems or undertaking research-related tasks, including within interdisciplinary teams.
3. The curriculum is implemented in Polish or English.
 4. The curriculum provides for practical training in the form of teaching or assisting in teaching, not exceeding 60 teaching hours per year.
 5. The curriculum for doctoral students is established by the Senate after consultation with the councils of the disciplines under which education is conducted and the doctoral student government.

§ 22

1. The curriculum allows for a high degree of individualization of education for the doctoral student. The curriculum includes:
 1. compulsory general courses, intended mainly for doctoral students of a given cohort;
 2. elective specialist courses, participation in which depends on the subject matter, scope, and degree of advancement in the implementation of the individual research plan.
2. Specialist courses:
 1. should lead to an increase in key competences appropriate to the scientific discipline concerned; therefore, they should be conducted by researchers with recognized international scientific achievements;
 2. should be conducted using various teaching methods and organizational forms, in particular lectures, seminars, and research and methodological workshops, including those on the use of specialist research methods and tools.
3. The doctoral student selects specialist courses at least 1 month before the start of the relevant semester. The individual plan for the implementation of specialist courses must be agreed with the supervisor or supervisors.
4. It is permissible to achieve part of the learning outcomes using remote education methods and techniques.
5. The plan for the implementation of specialist courses is approved by the Director of the Doctoral School.

§ 23

1. In the education program, all forms of classes completed by the doctoral student referred to in § 22 section 1 are assigned ECTS credits.
2. The education program specifies the annual number of ECTS credits that the doctoral student should obtain within homogeneous groups of classes, in particular:
 1. compulsory classes;
 2. scientific conferences and seminars;
 3. university seminars – interdisciplinary and specialist;

4. specialist workshops, including those conducted by foreign experts and specialists with practical experience.
3. The education program also specifies the number of ECTS credits that may be obtained through education using distance learning methods and techniques.
4. The number of ECTS credits should take into account the level of the doctoral student's activity, including the form of presentation of their own achievements.
5. ECTS credits are not awarded for internships conducted in the form of teaching or assisting in teaching.
6. Classes completed during international exchange may be included in the classes referred to in section 2 point 1, and a scientific internship, including a foreign internship, may be included in the classes referred to in section 2 points 2–4.

§ 24

1. Compulsory classes are credited by academic teachers and other persons entrusted by the Director of the Doctoral School with conducting these classes, by entering grades in the education documentation on a 2–5 scale.
2. To account for the active participation of the doctoral student in specialist classes, including those completed abroad, the submission of an appropriate certificate or confirmation is required.
3. If the education program provides for internships in the form of teaching or assisting in teaching, the completion of such activities is confirmed by the relevant dean.
4. Professional internships of foreign doctoral students are conducted in English or Polish.

Organization of Education

§ 25

1. The academic year at the University lasts from 1 October to 30 September and is divided into 2 semesters.
2. The Rector determines and announces to University staff and students the schedule and organization of the academic year at least 3 months before it begins.
3. In the Doctoral School, classes in the 1st semester begin with the winter semester.

§ 26

1. In the Doctoral School, the credit period is the semester.
2. The Director of the Doctoral School:
 1. based on the education program, prepares schedules for the implementation of compulsory classes for the given year of doctoral study, referred to in § 22 section 1 point 1, at least 1 week before the start of the relevant semester;
 2. approves individual plans for the implementation of specialist classes referred to in § 22 section 3 and makes adjustments during the semester,

upon the doctoral student's request endorsed by the supervisor or supervisors.

3. The classes referred to in section 2 must be completed and passed by the doctoral student within the deadline applicable to the end of the given semester, as specified in the organization of the academic year.
4. The doctoral student is obliged to submit to the Office of the Doctoral School a report on the implementation of the education program no later than 14 days before the end of the relevant semester, together with copies of the necessary attachments referred to in § 24 sections 2 and 3.
5. The Director of the Doctoral School performs the semester settlement of classes completed and passed by doctoral students.
6. Lack of semester settlement of classes may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

Supervisor and Assistant Supervisor

§ 27

1. The University body designated in the Statute, competent to award the doctoral degree in a given scientific discipline, appoints a supervisor or supervisors for the doctoral student within 3 months from the date of commencing education at the Doctoral School.
2. The appointment of a supervisor or – in accordance with § 28 – supervisors is made upon the doctoral student's request submitted to the Doctoral School office. The request should be submitted within 1 month from the date of commencing education at the Doctoral School. In the request, the doctoral student indicates the academic teacher who, in their opinion, may act as the supervisor.
3. The request also includes a justification in which the doctoral student specifies, in particular:
 1. the proposed topic and purpose of the doctoral thesis, with the topic clearly referring to the subject on the basis of which the doctoral student was admitted to the Doctoral School;
 2. an outline of the research issues and the scope of research necessary to be conducted;
 3. the expected results and their potential use to advance the discipline.
4. Submission of the request by the doctoral student also requires the opinion of the head of the relevant unit of the University, regarding the feasibility of the research referred to in section 3 point 2.
5. The proposed supervisor or supervisors submit to the Director of the Doctoral School a declaration of willingness to provide scientific supervision to the doctoral student, as well as a declaration of compliance with the requirements for holding this position, as specified in §§ 29 and 30.
6. Following formal verification, the Director of the Doctoral School forwards the request for appointment of the supervisor or supervisors without delay to the chair of the body referred to in section 1.
7. Failure by the doctoral student to submit the request within the deadline referred to in section 2 may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 28

1. The doctoral student may prepare an interdisciplinary doctoral thesis, whose research issues and scope of research extend beyond the field of one scientific discipline.
2. In the case of an interdisciplinary thesis, 2 supervisors are appointed, each competent in one of the disciplines to which the research issue pertains. The provisions of § 27 sections 1–5 apply accordingly.

§ 29

1. A supervisor may be a person holding a post-doctoral degree (doktor habilitowany) or the title of professor, who has achievements in the scientific area to which the doctoral thesis relates.
2. A person not meeting the requirements specified in section 1 may also act as a supervisor if they are an employee of a foreign university or research institution, provided that the body referred to in § 27 section 1 recognizes that the person has significant achievements in the scientific area to which the doctoral thesis relates.
3. Without a justified reason, an academic teacher may not refuse to act as a supervisor.
4. The scientific supervision provided by the supervisor is assessed concurrently with the mid-term assessment of doctoral students. Detailed rules for conducting the assessment of scientific supervision are defined in the Regulations for assessing the scientific supervision of doctoral students of the Doctoral School, constituting Appendix No. 2 to the Regulations.

§ 30

A person may not act as a supervisor if, in the last 5 years:

1. they supervised 4 doctoral students who were removed from the list of doctoral students due to a negative mid-term assessment,
or
2. they supervised the preparation of a doctoral thesis by at least 2 candidates for the doctoral degree whose theses did not receive positive reviews, preventing admission to the defense.

§ 31

1. The scope of implementation of the individual research plan referred to in § 33 may provide grounds for appointing an assistant supervisor.
2. The appointment of an assistant supervisor is made upon the doctoral student's request submitted to the Doctoral School office, within 30 days after obtaining a positive evaluation from the assessment committee referred to in § 33 section 9.
3. The request includes an indication of the academic teacher who, in the doctoral student's opinion, may act as the assistant supervisor, as well as a positive opinion from the supervisor.
4. Following formal verification, the Director of the Doctoral School forwards the request for appointment of the assistant supervisor without delay to the chair

of the body referred to in § 27 section 1. The assistant supervisor should be appointed within 1 month from the date of submission of the request.

§ 32

1. An assistant supervisor may be a person holding at least a doctoral degree, and the requirements specified in § 29 section 3 apply to their appointment.
2. An assistant supervisor shall not be appointed in the case of an interdisciplinary doctoral thesis as referred to in § 28 section 1.

Individual Research Plan

§ 33

1. The doctoral student, in consultation with the supervisor or supervisors, prepares an individual research plan, which includes in particular:
 1. the schedule and scope of the research to be conducted;
 2. the schedule for preparation and the deadline for submission of the doctoral thesis.
2. The research topic carried out as part of the individual research plan shall clearly relate to the research topic based on which the doctoral student was admitted to the Doctoral School.
3. The doctoral student submits the individual research plan in electronic and paper form to the Doctoral School office at least 1 month before the end of the first year of education.
4. The individual research plan shall be presented by the doctoral student to the assessment committee within 12 months from the date of commencement of education.
5. The University body referred to in § 27 section 1 appoints the assessment committee upon request of the Director of the Doctoral School submitted to the chair of this body. The committee shall be appointed at least 3 months before the deadline referred to in section 3.
6. The assessment committee deliberates in a 5-member composition, including at least 2 persons who are members of the body referred to in section 5.
7. In the case of an interdisciplinary thesis as referred to in § 28 section 1, the assessment committee deliberates in a 7-member composition, including:
 1. the Director of the Doctoral School as chair;
 2. 3 persons selected by the competent body, including at least 2 persons who are members of the body referred to in section 5.
8. The supervisor or supervisors participate in the meeting of the assessment committee as observers.
9. The requirements specified in § 29 apply to the selection of members of the assessment committee.
10. The assessment committee makes decisions regarding the evaluation of the individual research plan by a simple majority of votes. The evaluation may be positive, in which case the plan is implemented without changes, or the committee may indicate comments on the individual research plan that must be taken into account by the doctoral student when revising the plan.
11. A protocol of the assessment meeting is prepared and signed by all members of the committee.

12. In the case of comments from committee members, the revised plan together with explanations and the opinion of the supervisor or supervisors shall be submitted by the doctoral student to the committee within 1 month of receiving the assessment protocol. Failure to revise the plan or submit explanations within the above deadline constitutes grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.
13. The assessment committee informs the Director of the Doctoral School of the results of the evaluation of the individual research plan, and the Director communicates this information to the relevant discipline coordinators and to the doctoral students.

§ 34

1. The individual research plan may be modified after the mid-term evaluation referred to in § 35. The modification is carried out by the doctoral student in consultation with the supervisor or supervisors, or with the supervisor and the assistant supervisor. The modification may concern changes in the scope and timeline of the research conducted, as well as changes in the schedule for the completion of the doctoral thesis.
2. In justified cases, changes to the scope and timeline of the research included in the individual research plan may be made before the mid-term evaluation is conducted.
3. Each modification of the individual research plan requires a positive opinion from the chair of the Committee referred to in § 33. The chair of the Committee may seek the Committee's opinion. The Director shall immediately inform the doctoral student of the approval of the modification of the individual research plan.

Mid-term Evaluation and Progress Assessment § 35

1. The implementation of the individual research plan is subject to mid-term evaluation, conducted by the assessment committee appointed by the body designated in the Statute, referred to in § 27 section 1.
2. The mid-term evaluation is conducted from the beginning of September of the 4th semester of education and must be completed within 3 subsequent months.
3. For the purpose of the mid-term evaluation, the doctoral student prepares a report on the implementation of the individual research plan, which is submitted in electronic and paper form to the Doctoral School office by 10 September of the 4th semester of education in which the evaluation is conducted. The report shall be accompanied by the opinion of the supervisor or supervisors.
4. The report may include justification for necessary modifications to the individual research plan, including changes to the schedule for completion of the doctoral thesis.
5. Following formal verification of the report, the Director of the Doctoral School submits a request for the mid-term evaluation to the chair of the body referred to in section 1, within 14 days of receiving the report.

6. Failure by the doctoral student to submit the report within the deadline referred to in section 3 may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 36

1. The committee referred to in § 35 section 1 consists of 3 persons, including at least 1 employed outside the University, holding a postdoctoral degree (doktor habilitowany) or the title of professor in the discipline in which the doctoral dissertation is being prepared, or an employee of a foreign university or research institution with significant achievements in the scientific area to which the doctoral dissertation relates.
2. The supervisor or assistant supervisor may not be a member of the committee.
3. The detailed rules for conducting the mid-term evaluation are specified in the Regulations of the Mid-Term Evaluation of Doctoral Students, constituting Annex No. 3 to the Regulations.
4. The mid-term evaluation ends with a positive or negative result, and the result together with the justification is public.
5. The committee prepares minutes of the meeting, which are signed by all its members.
6. Information on the mid-term evaluation is entered into the integrated POL-on system.
7. A negative evaluation constitutes grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 37

1. After conducting the mid-term evaluation referred to in § 36 section 3, progress in the implementation of the individual research plan is evaluated every semester, i.e. progress:
 1. in the implementation of research of the individual research plan;
 2. in the preparation of the doctoral dissertation, subject to section 3.
2. The progress evaluation is carried out based on a report prepared by the doctoral student. The guidelines and rules for conducting the evaluation are set by the Doctoral School Council.
3. The detailed rules for the progress evaluation are specified in the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and Preparation of the Doctoral Dissertation, constituting Annex No. 4 to the Regulations.
4. The evaluation of the implementation of the individual research plan and progress in the preparation of the doctoral dissertation is carried out within 1 year after the mid-term evaluation, i.e. in September (6th semester), and subsequently in February (7th semester) and June (8th semester).
5. The reports referred to in section 2, approved by the supervisor or supervisors, are submitted by the doctoral student in electronic and paper form to the Doctoral School office at least 14 days before the end of the relevant semester.
6. The progress evaluation is carried out by the Committee for the Evaluation of the Individual Research Plan.

7. The progress evaluation may be positive or negative. A negative evaluation may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

Change of supervisor § 38

1. In justified cases, particularly those preventing the implementation of the individual research plan, including preparation of the doctoral dissertation, the doctoral student may submit a request to the Director of the Doctoral School to change the supervisor or assistant supervisor.
2. In the request, the doctoral student shall indicate a candidate for the new supervisor or assistant supervisor for the further stage of education at the Doctoral School, taking into account § 29.
3. In cases preventing the continuation of scientific supervision, the supervisor or assistant supervisor may resign from their function. In the request submitted to the Director of the Doctoral School, the supervisor or assistant supervisor shall indicate justified reasons for resignation as well as an academic teacher with sufficient achievements to take over scientific supervision.
4. After reviewing the case, the Director of the Doctoral School promptly submits the request to change the supervisor or assistant supervisor to the chairperson of the body referred to in § 27 section 1.
5. The supervisor or assistant supervisor should be appointed within 1 month from the date of submitting the request referred to in sections 1 or 3.

Suspension, extension, and resignation from education § 39

1. Suspension of education, referred to in § 17 section 3, constitutes grounds for changing the plan of classes carried out by the doctoral student and changing the deadline for submitting required reports and applications, as well as modifying the schedule for implementing the individual research plan, including the schedules of research and preparation of the doctoral dissertation.
2. The basis for changing the plan of classes carried out by the doctoral student may also be:
 1. specific needs of the doctoral student:
 - resulting from the doctoral student's or a family member's health condition and duly documented fortuitous circumstances, including long-term illness of the doctoral student or a family member, documented with the appropriate medical certificate,
 - resulting from fortuitous circumstances;
 2. completing a research internship, including abroad, lasting longer than 3 months.
3. In justified cases, including those resulting from health conditions or fortuitous circumstances, the doctoral student may also request a change in the scope of professional practice, carried out in the form of teaching or participating in teaching.
4. At the request of the doctoral student, the changes referred to in sections 1–3 are made by the Director of the Doctoral School after obtaining the opinion of:

1. for classes referred to in sections 1 and 2 – the supervisor or supervisors;
2. for classes referred to in section 3 – the head of the unit in which the doctoral student conducts research.
An opinion is not required regarding changes related to the schedule of compulsory classes.
5. The doctoral student is obliged to submit to the Doctoral School office the request referred to in section 4, together with justification, no later than 14 days before the end of the semester.
6. Changes to the schedule of implementation of the individual research plan, including the schedule for preparation of the doctoral dissertation, are made in the manner referred to in § 34.

§ 40

1. The changes referred to in § 39 sections 1 and 2 constitute grounds for extending education at the Doctoral School and changing the deadline for submitting the doctoral dissertation, subject to section 4.
2. The justified necessity to repeat research or conduct additional research, as well as the change of supervisor referred to in § 38, may also constitute grounds for extending education at the Doctoral School.
3. At the request of the doctoral student, the extension of education is granted by the Director of the Doctoral School after consulting the opinion of the supervisor or supervisors. In this regard, the Director of the Doctoral School may request an opinion from the chairperson of the body referred to in § 27 section 1.
4. The deadline for submitting the doctoral dissertation may be extended by a maximum of 2 years.

§ 41

1. The doctoral student may resign from education at the Doctoral School.
2. Resignation from education is confirmed on the basis of a written statement of resignation submitted by the doctoral student, including a declaration of no claims to the results of the conducted research.
3. The doctoral student shall attach to the statement an opinion from the head of the unit in which the research was conducted, confirming correct settlement of obligations towards the unit.
4. Resignation from education constitutes grounds for removal of the doctoral student from the list of doctoral students.

Doctoral students with special needs, including doctoral students with disabilities, and medical examinations

§ 42

1. The University provides persons with special needs resulting from their health condition, including persons with disabilities, with conditions for full participation in University life and the academic community, including in education. These conditions include, in particular, the rights and forms of support referred to in section 2. The units of the University are responsible for

implementing the support. The coordination of support activities is carried out by the Office for Persons with Disabilities (BON).

2. A doctoral student with special needs resulting from their health condition, including a disability, if justified by their specific needs, has the right to the entitlements and services referred to in the support regulations, on the conditions specified therein, including:
 1. provision of accessibility within the teaching process through, among others:
 - provision of accessible forms, locations, conditions and appropriate organization, including individual classes or classes in an alternative form,
 - provision of accessibility of teaching materials,
 - permission to take personal notes from classes in an alternative form (including through recording or taking photos) and to use other devices,
 - in the case of enrollment for classes or groups based on first come, first served – priority enrollment for such classes or groups,
 - education in the form of an individual study program,
 2. provision of accessibility within the learning outcomes assessment process, including ensuring equivalence of form and objectivity of assessment through, among others:
 - provision of accessible forms, locations, conditions and appropriate organization,
 - assessment of learning outcomes at times that take into account the doctoral student's special needs,
 - course completion in an individual mode,
 - assessment of learning outcomes in sign languages,
 3. provision of accessibility within scientific activity:
 - provision of accessible forms of conducting scientific activity,
 - provision of accessibility of research materials,
 - provision of accessibility of research equipment and research software,
 - provision of support for participation in scientific conferences, etc.,
 4. elimination or limitation of harmful, onerous and hazardous factors for health occurring during education at the Doctoral School, including:
 - the right to request a referral for medical examinations,
 - the right to request the limitation or elimination of harmful, onerous or hazardous factors for health,
3. The Director of the Doctoral School, the head of the unit where the doctoral student conducts research, or another head of a University unit shall provide or support the implementation of the granted entitlements and services.
4. Requests from a doctoral student with special needs, including a disability, submitted to the Director of the Doctoral School, another head of a University unit, or the Rector, referring to their health condition – are considered in cooperation with BON.
5. Medical documentation, decisions, etc. are included in the BON documentation and are not kept in the doctoral student's personal file, except in situations indicated in the applicable regulations.

§ 43

1. The list of harmful, onerous and hazardous factors for health (hereinafter “harmful factors”) that occur during education in individual disciplines is

prepared and updated by the Occupational Health and Safety and Fire Protection Office and published on the BON website.

2. In disciplines where during education, including research, doctoral students are exposed to harmful factors, the condition for admitting the doctoral student to classes or research is submission of a medical certificate confirming no health contraindications to undertake education in the given discipline – subject to section 4.
3. Persons applying for admission via transfer from another doctoral school in the discipline referred to in section 2, and doctoral students before the date of the next medical examination indicated in the medical certificate – receive a referral for medical examinations.
4. The University strives to enable the widest possible group of persons to undertake and continue education at the Doctoral School, in particular by eliminating or reducing harmful factors in individual cases.
5. A person referred to in section 3 has the right to apply to the Director of the Doctoral School for the right to receive a referral for medical examination.
6. A person who presents a medical certificate confirming the existence of health contraindications to undertake education in the given discipline may exercise the right to request elimination or reduction of harmful factors. In the case of reduction of harmful factors, the person receives a referral for medical examination concerning only those limited harmful factors.
7. If elimination or reduction of harmful factors in a given discipline is not possible or if despite their reduction, the person presents a medical certificate confirming health contraindications to education in the Doctoral School in this discipline, the University shall propose a change of research profile, subject to other formal requirements.

Completion of education at the Doctoral School

§ 44

1. The doctoral student completes education by submitting the doctoral dissertation to the Doctoral School's secretariat.
2. The doctoral dissertation must meet the requirements specified in Article 187 of the Act.
3. The doctoral student prepares the doctoral dissertation in Polish or English.
4. The doctoral student shall attach to a dissertation prepared in Polish a summary in English, and to a dissertation prepared in English a summary in Polish.

§ 45

1. The individual research plan specifies the deadline for submitting the doctoral dissertation.
2. The doctoral student shall attach to the submitted dissertation a supervisor's or supervisors' opinion confirming that the submitted dissertation meets the formal and substantive requirements and complies with the individual research plan.
3. If the dissertation is a written work, it shall be checked using the anti-plagiarism system (JSA). The check is carried out by the supervisor, who attaches the report to the opinion referred to in section 2.

4. After formal verification of the submitted dissertation, the Director of the Doctoral School issues a certificate of completion of the Doctoral School.

§ 46

1. If the doctoral student intends to initiate proceedings for the award of the doctoral degree before the body referred to in § 27 section 1, they shall attach to the submitted dissertation:
 1. a request to initiate proceedings for the award of the doctoral degree, addressed to the chairperson of the body referred to in § 27 section 1;
 2. documents confirming fulfilment of the requirements necessary to award the doctoral degree, as specified in the Act and the relevant resolution of the Senate.
2. After formal verification of the submitted dissertation, the Director of the Doctoral School shall immediately forward the request to initiate proceedings for the award of the doctoral degree to the chairperson of the body referred to in § 27 section 1, attaching the dissertation and the positive opinion of the supervisor or supervisors.

§ 47

1. In the case of a negative opinion issued by the supervisor or supervisors, as referred to in § 42a section 2, the doctoral student shall supplement or revise the dissertation in accordance with the recommendations set out in the opinion, within 3 months of receiving the negative opinion.
2. After supplementing or revising the dissertation, the supervisor or supervisors issue a new opinion.
3. In the case of another negative opinion, the doctoral student has the right to appeal to the evaluation committee referred to in § 35 section 5. The committee's opinion is final.

§ 48

The procedure for awarding the doctoral degree is regulated by separate provisions. At the University, the procedure is conducted by the body referred to in § 27 section

1.

Removal from the list

§ 49

1. The doctoral student shall be removed from the list of doctoral students in the case of:
 1. a negative result of the mid-term evaluation referred to in § 36 section 5;
 2. failure to submit the doctoral dissertation within the deadline specified in the individual research plan;
 3. resignation from education;
 4. failure to commence education;
 5. violation of the prohibition on being a doctoral student at more than one doctoral school, or violation of the employment prohibition under the conditions specified in § 17 section 4;
 6. sanction of disciplinary expulsion from the Doctoral School.

2. In proceedings concerning the removal of a doctoral student from the list of doctoral students in the cases referred to in section 1 point 5), the doctoral student is summoned to submit, within a period of no less than 30 days, a resignation from education at another doctoral school or resignation from employment as an academic teacher or researcher.
3. The doctoral student may be removed from the list of doctoral students in the case of failure to fulfil the obligations related to the implementation of the education programme, based on the lack of semester completion of courses referred to in § 26 section 6.
4. The doctoral student may also be removed from the list of doctoral students in the case of:
 1. unsatisfactory progress in preparing the doctoral dissertation;
 2. failure to fulfil the obligations related to the implementation of the individual research plan;
– based on the progress evaluation referred to in § 37 section 5.
5. Removal from the list of doctoral students is carried out by administrative decision. The student has the right to request reconsideration of the case.

Education documentation

§ 50

1. The documentation of the doctoral student's education process at the Doctoral School is maintained using the University's IT system and recorded in the doctoral student's index.
2. The documentation referred to in section 1 is collected in the IT system and stored in the doctoral student's personal file, maintained by the Doctoral School's secretariat, from the moment the candidate applies for admission to the Doctoral School.
3. Data are entered into the IT system on an ongoing basis. The Director of the Doctoral School is responsible for the completeness, correctness and timeliness of the data entered into the IT system.
4. The chairperson of the body referred to in § 27 section 1 is responsible for timely submission to the Director of the Doctoral School of documentation related to the procedures conducted by that body.
5. The Doctoral School's secretariat is obliged to assign the doctoral student an album number from the central pool, enter the appropriate Doctoral School education programme code, order the printing of the Electronic Doctoral Student ID card and migrate data from USOS to the POL-on system.

§ 51

1. After a candidate is admitted to the Doctoral School, the Doctoral School secretariat enters the data into the university's IT system and subsequently, without delay, into the POL-on system. These data include, among others:
 1. first name(s) and surname;
 2. PESEL number, or in its absence – the number of an identity document and the name of the country that issued it;
 3. electronic researcher identifier compliant with international standards, which the doctoral student admitted to the Doctoral School must apply for within 14 days from the start of education;

4. citizenship, and in the case of foreigners:
 - name of the country of birth,
 - information on admission to the Doctoral School and participation in education therein,
 - information on possession of a Polish Charter (Karta Polaka);
 5. year of birth;
 6. sex;
 7. information on the amount of the doctoral scholarship;
 8. date of commencement of education at the Doctoral School, date and duration of suspension, date of completion of education at the Doctoral School or date of removal from the list of doctoral students.
2. In the case of consent to extend the deadline for submitting the doctoral dissertation, this information is entered into the university's IT system and the POL-on system.
 3. The detailed list of documents collected in the doctoral student's file referred to in § 47 section 2 is specified in Appendix No. 1 to the Regulations.

Appeals and final provisions

§ 52

1. The doctoral student has the right to appeal to the Rector against all decisions issued by the Director of the Doctoral School. The Rector may uphold the Director's decision or repeal it and return the case to the Director for reconsideration.
2. In matters concerning the course of education resolved in the form of administrative decisions and not regulated by the Regulations, the provisions of the Code of Administrative Procedure shall apply accordingly, unless the Act provides otherwise. An application for reconsideration of the case may be submitted against administrative decisions issued by the Rector.

§ 53

In cases justified by extraordinary circumstances that threaten the life or health of doctoral students, the minister responsible for higher education and science may, by regulation, temporarily limit or temporarily suspend the education of doctoral students.

Appendix No. 1

to the Regulations of the Doctoral School

Method of documenting the course of education in the doctoral student's personal file

I. Documentation of the doctoral student related to the course of education

1. The doctoral student's personal file, maintained and stored at the Doctoral School secretariat, contains:
 1. documents required from the candidate of the Doctoral School;
 2. qualifying procedure documents constituting the basis for entry onto the list of doctoral students;
 3. confirmation of taking the oath;
 4. documents confirming the course of education at the Doctoral School, including, among others:
 - a. credit protocols, internship reports,
 - b. documents related to scholarships,
 - c. documents related to completion of education at the Doctoral School,
 5. additional documentation resulting from the agreement or arrangement referred to in § 12 section 1;
 6. resolutions adopted by the University body competent to conduct the doctoral proceedings, related to:
 - a. appointment of the supervisor or supervisors, as well as the auxiliary supervisor;
 - b. change of supervisor or supervisors, as well as auxiliary supervisor;
 - c. appointment of reviewers;
 - d. acceptance of the doctoral dissertation and admission to its public defence;
 - e. acceptance of the public defence of the doctoral dissertation;
 - f. granting or not granting the doctoral degree;
 7. reviews of the doctoral dissertation;
 8. awards/distinctions of the doctoral dissertation;
 9. if the doctoral dissertation is a written work – a copy of the doctoral dissertation together with a summary: in English for a dissertation prepared in Polish, and in Polish for a dissertation prepared in English;
 10. if the doctoral dissertation is not a written work, it should be accompanied by a description in Polish and English;
 11. a diploma transcript for the file, together with a photocopy of the additional diploma transcript translated into another language, and confirmation of receipt of the diploma, transcripts and any duplicates;
 12. if the doctoral dissertation is a written work, the report from the Uniform Anti-Plagiarism System;
 13. notification of granting or not granting the doctoral degree.
2. After completion of the full education cycle of the doctoral student, the file is stored for a period of 1 year and is subsequently transferred to the University archive.

**Regulations for the Evaluation of Scientific Supervision
of Doctoral Students of the Doctoral School**

§ 1

1. Scientific supervision is evaluated concurrently with the mid-term evaluation of doctoral students, which is carried out in accordance with Article 202(2) of the Act of 20 July 2018 – Law on Higher Education and Science.
2. The evaluation of scientific supervision is conducted on the basis of the Scientific Supervision Evaluation Report, the template of which is specified in Annex No. 1 to these Regulations, as well as on the basis of a discussion held by the Committee referred to in § 2(1) with the supervisor(s) and the doctoral student.
3. The Evaluation Report shall be submitted to the Doctoral School Office no later than by the end of the first week of October of the year in which the mid-term evaluation of the doctoral student takes place.
4. The discussion with the supervisor may be conducted remotely.
5. The evaluation of scientific supervision ends with either a positive or negative result. The result of the evaluation, together with its justification, is public.

§ 2

1. The evaluation of scientific supervision is carried out by a three-member Committee for the Evaluation of Scientific Supervision appointed by the relevant discipline council, composed of employees of the Hugo Kołłątaj University of Agriculture in Kraków. The Committee shall include two persons who participate in the work of the Committee for the mid-term evaluation of the doctoral student. The discipline council shall appoint the Committee within one month of receiving the request from the Director of the Doctoral School.
2. The Committee proposes the date of the discussion with the supervisor.
3. The Committee prepares the Scientific Supervision Evaluation Protocol, the template of which is specified in Annex No. 2 to these Regulations.
4. In the case of a negative evaluation of scientific supervision, combined with a positive mid-term evaluation of the doctoral student's Individual Research Plan (IRP), the relevant discipline council shall change the supervisor; the request for such a change is submitted by the Director of the Doctoral School.
5. The members of the Committee submit the final evaluation to the Director of the Doctoral School within 3 days of the last meeting. The Director of the Doctoral School presents the final evaluation to the evaluated supervisor, the coordinator, and the discipline council. The supervisor signs the Scientific Supervision Evaluation Protocol.

§ 3

1. In justified cases, the Director of the Doctoral School may change the deadlines specified in these Regulations by issuing an announcement.
2. Matters relating to the work of the Committee that are not covered by these Regulations shall be decided by the Director of the Doctoral School.

Annex No. 1

to the Regulations for the Evaluation of Scientific Supervision

SCIENTIFIC SUPERVISION EVALUATION REPORT

(separate file)

Annex No. 2 to the Regulations for the Evaluation of Scientific Supervision

SCIENTIFIC SUPERVISION EVALUATION PROTOCOL

(separate file)

Regulations of the Mid-term Evaluation of Doctoral Students

§ 1

1. In accordance with Article 202(2) of the Act of 20 July 2018 – Law on Higher Education and Science, the implementation of the Individual Research Plan (hereinafter: IRP) is subject to a mid-term evaluation halfway through the period of education specified in the curriculum.
2. The mid-term evaluation is carried out from the beginning of September of the 4th semester of education and must be completed within the following 3 months.
3. The mid-term evaluation of a doctoral student is based on:
 1. the report on the implementation of the IRP submitted by the student, the template of which is specified in Annex No. 1 to these Regulations (stage 1);
 2. the interview with the doctoral student (stage 2).
4. The report on the implementation of the IRP, written in Polish or English and signed by the doctoral student and the supervisor, shall be submitted to the Doctoral School Office no later than by the end of the first week of October of the year in which the mid-term evaluation takes place.
5. The interview with the doctoral student is conducted in Polish or English and may be held remotely.
6. The report on the implementation of the IRP must include a copy of the IRP and documents confirming the doctoral student's activities resulting from the IRP, including the first pages of papers published during the doctoral programme, decisions of institutions awarding grants, confirmation from the principal investigator of a research project, patent application numbers, and confirmation of participation in a conference including the type of presentation and the title of the presented work.
7. The mid-term evaluation ends with a positive or negative result. The result, together with its justification, is public.

§ 2

1. The mid-term evaluation is conducted by the Mid-term Evaluation Committee appointed by the relevant discipline council upon the request of the Director of the Doctoral School. The discipline council appoints the Committee within one month of receiving the request.
2. The Mid-term Evaluation Committee is composed of 3 persons holding the degree of doktor habilitowany (DSc) or the title of professor in the discipline in which the doctoral dissertation is being prepared, including at least one person employed outside the University or an employee of a foreign university or research institution with significant achievements in the field relevant to the doctoral dissertation.
3. Members of the Committee must be active researchers, meaning that within the last six years they have published at least four works (journal articles, conference papers, or books within a book series) indexed in Scopus, with at least two of these works published in journals assigned to the discipline

according to the ministerial list and having a score of at least 30 points according to the MNiSW list (if published before 2018) or at least 100 points according to the MEiN list (if published after 2018). For the discipline of economics and finance, these thresholds are 25 and 70 points, respectively.

4. One member of the Committee may be a researcher from abroad. Participation of such a member takes place exclusively remotely.
5. The supervisor and assistant supervisor cannot be members of the Committee.
6. The discipline council appoints the chair, the secretary, and a member of the Committee. In justified cases, the Director of the Doctoral School may request that the discipline council dismiss a member of the Committee and appoint a replacement.
7. A Committee member employed outside the institution running the Doctoral School is entitled to remuneration equal to 20% of a professor's salary. The remuneration is covered from the research subsidy allocated to the relevant discipline.
8. The chair of the Committee convenes meetings by setting the dates and venues. All necessary information is provided to the Doctoral School Office, which informs the doctoral student and the supervisor about the dates and locations of the Committee meetings.
9. The mid-term evaluation report is reviewed by the Committee within 30 days of delivering the report to its members.
10. The Committee proposes the date of the interview with the doctoral student.
11. Attendance of the doctoral student at the Committee meeting during which the interview is held is mandatory. Acceptable reasons for absence include a medical certificate presented on the day of the evaluation (or, in exceptional cases, within no more than 7 days after the scheduled meeting) or an important unforeseen event. In such cases, a new evaluation date is set. Unexcused absence results in a negative evaluation.
12. During the interview, the doctoral student presents the status of IRP implementation in a 20-minute presentation. Each member of the Committee asks one question related to the presentation or the implementation of the IRP. The questions are recorded, and the template of the protocol is provided in Annex No. 2 to these Regulations.
13. After completing both stages of the evaluation, the Committee agrees on the final result of the mid-term evaluation and prepares a protocol (Annex No. 2). The Committee provides the result as positive or negative. The evaluation is positive if the majority of the Committee members issue a positive opinion.
14. A positive mid-term evaluation must be based on the fulfilment of the following conditions:
 1. the doctoral student has completed the tasks specified in the IRP for completion by the end of the 4th semester;
 2. the doctoral student demonstrates a delay in IRP implementation not exceeding 30%, and it is still possible to complete the IRP within the timeframe specified in the Regulations of the Doctoral School, with the doctoral student's scientific and publication activity clearly indicating their engagement in the research tasks.
15. A negative mid-term evaluation is issued when the Committee finds no progress in the implementation of the IRP.
16. Both positive and negative evaluations must be justified.

17. The Committee deliberates on the result in a closed session.
18. A negative mid-term evaluation results in removal from the list of doctoral students.
19. The Committee members present the final evaluation to the Director of the Doctoral School within 3 days of the last meeting. The Director provides the final evaluation to the doctoral student, the supervisor, the coordinator, and the discipline council. The doctoral student and the supervisor sign the final evaluation protocol on the date of receipt.
20. The doctoral student may appeal a negative evaluation to the Director of the Doctoral School within 7 days of the publication of the results.
21. At the request of the Director of the Doctoral School, the Rector appoints a three-member Appeals Committee, including at least two persons not employed at the University and at least one person holding the degree of doktor habilitowany or the title of professor in the relevant discipline.
22. The Appeals Committee, after reviewing all documentation, conducts an interview with the doctoral student in order to make a final decision. This decision must be made no later than one month from the date the doctoral student submits the appeal. The decision of the Appeals Committee is final.

§ 3

1. In justified cases, the Director of the Doctoral School may change the deadlines specified in these Regulations by issuing an announcement.
2. Matters concerning the Committee's activities that are not covered by these Regulations shall be decided by the Director of the Doctoral School.

Annex No. 1 to the Regulations of the Mid-term Evaluation

MID-TERM EVALUATION REPORT

(separate file)

Annex No. 2 to the Regulations of the Mid-term Evaluation

MID-TERM EVALUATION PROTOCOL OF THE DOCTORAL STUDENT

(separate file)

Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan of Doctoral Students and the Status of Preparation of the Doctoral Dissertation

1. In accordance with § 37 of the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków, after the completion of the mid-term evaluation, the implementation of the Individual Research Plan (hereinafter: IRP) and the status of preparation of the doctoral dissertation are subject to evaluation.
2. The evaluation is carried out three times: in September (6th semester), February (7th semester), and June (8th semester).
3. The evaluation of the doctoral student's progress is based on a submitted report presenting the progress in the implementation of the Individual Research Plan and the status of preparation of the doctoral dissertation, hereinafter referred to as the Report. The template of the Report is specified in Annex No. 1 to these Regulations. The Report should be reviewed by the supervisor or supervisors of the doctoral dissertation.
4. The Report, prepared in Polish or English and signed by the doctoral student and the supervisor or supervisors, shall be submitted to the Doctoral School Office no later than by the end of the month preceding the evaluation date indicated in point 2.
5. The evaluation of progress in the implementation of the Individual Research Plan and the status of preparation of the doctoral dissertation is carried out by the Committee for the Evaluation of the Individual Research Plan.
6. The Report must include documentation from the mid-term evaluation (the doctoral student's report and the evaluation protocol), a copy of the IRP, the report from the previous evaluation, as well as documents confirming the doctoral student's activities resulting from the IRP, including: the first pages of works published since the previous evaluation, decisions from institutions granting research funding, confirmation from the principal investigator of a research project, proof of submission of a grant application, patent application number, confirmation of participation in a conference containing the type of presentation and the title of the presented work, and documentation of the completion of a national or international research internship.
7. The Report is evaluated by the Committee. The Chair of the Committee convenes its meetings, setting the dates and venues.
8. A positive evaluation is based on the fulfilment of the following conditions:
 1. the doctoral student has completed the tasks specified in the IRP for completion by the end of the relevant semester;
 2. the doctoral student demonstrates a delay in completing the IRP, but their scientific and publication activity clearly indicates their engagement in the research tasks.
9. The Committee determines the final evaluation result and prepares a protocol, the template of which is included in Annex No. 2 to these Regulations. The Committee issues the result as either positive or negative. The evaluation result is positive if the majority of Committee members issue a positive opinion.

10. A negative evaluation may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.
11. The Chair of the Committee submits the final evaluation to the Director of the Doctoral School within 7 days of the last meeting. The Director of the Doctoral School provides the final evaluation to the doctoral student and the supervisor or supervisors. The evaluation protocol is forwarded to the chair of the relevant discipline council.
12. The doctoral student has the right to appeal the result of the evaluation within 30 days from the date of receiving the evaluation.
13. At the request of the Director of the Doctoral School, the Rector appoints a three-member Appeals Committee. The Appeals Committee shall issue a decision no later than one month from the date the doctoral student submits the appeal. The decision of the Appeals Committee is final.

Annex No. 1 to the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and the Status of Preparation of the Doctoral Dissertation

**REPORT ON THE EVALUATION OF PROGRESS IN THE IMPLEMENTATION OF
THE INDIVIDUAL RESEARCH PLAN AND THE STATUS OF PREPARATION OF
THE DOCTORAL DISSERTATION**

(separate file)

Annex No. 2 to the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and the Status of Preparation of the Doctoral Dissertation

PROTOCOL OF THE EVALUATION OF PROGRESS IN THE IMPLEMENTATION OF THE INDIVIDUAL RESEARCH PLAN AND THE STATUS OF PREPARATION OF THE DOCTORAL DISSERTATION

(separate file)

Admission rules for the Doctoral School of the University of Agriculture in Krakow

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General Regulations

§1

1. The resolution defines the rules of recruitment to the Doctoral School of the University of Agriculture hereinafter referred to as the doctoral school.
2. Recruitment takes place within the disciplines, in accordance with the powers held by the University:
 - 1) in the field of agricultural sciences in a scientific discipline:
 - a) forestry
 - b) agriculture and horticulture;
 - c) nutrition and food technology;
 - d) animal science and fisheries,
 - 2) in the field of engineering and technical sciences in the scientific discipline:
 - a) civil engineering, geodesy and transport;
 - b) mechanical engineering;
 - c) environmental engineering, mining and energy,
 - 3) in the field of social sciences in the scientific discipline of economics and finance,
 - 4) in the field of exact and natural sciences in the scientific discipline of biological sciences,
 - 5) in the field of veterinary sciences in the discipline of veterinary.

3. Recruitment takes place in the form of a competition set out in § 5-10 and § 14-18 or in the form of competitions referred to in § 11.
4. The results of the competition are public.
5. Recruitment may take place remotely, using tools of distance communication and electronic document circulation.
6. Recruitment can be conducted in the English language.

§2

1. A person who has a master's degree, master's degree in engineering or an equivalent professional title may be admitted to the Doctoral School, subject to the requirements set out in §12 for foreigners.
2. In cases justified by the highest quality of scientific achievements, a person who is a graduate of first-cycle studies or a student who has completed the third year of uniform master's studies may be admitted to the Doctoral School. This person has published at least two articles presenting the results of their own scientific research, in the last four years preceding the year of admission to the Doctoral School, in journals which in the year of publication of the article in its final form were included in the list drawn up in accordance with the regulations issued on the basis of generally applicable regulations and had a score of at least:
 - 1) 35 points for articles published up to 2018;
 - 2) 100 points for articles published in subsequent years; - and in at least one case the candidate is to be the first or only author of the article.

§3

1. Admission to the Doctoral School takes place by:
 - 1) entry on the list of doctoral students by the recruitment committee;
 - 2) Rector's administrative decision in the case of foreigners.
2. Refusal to admit to the Doctoral School takes place by way of an administrative decision. The decision is subject to an application for reconsideration of the case.

§4

If several separate education programs are established, including those involving education conducted in cooperation with another entity, in particular with an entrepreneur or a foreign university or scientific institution, recruitment for each education program is carried out separately.

Recruitment Committee

§5

1. The recruitment procedure is conducted by the recruitment committee, subject to §11 sec. 2.
2. Within the recruitment committee, there are qualification teams appropriate for a given scientific discipline. For each scientific discipline several qualification teams may be appointed. In case of a topic reported to two disciplines the team is established in accordance with §14 sec. 3.
3. The recruitment committee and its chairman are appointed by the Rector.
4. The recruitment committee works throughout the academic year, until the appointment of the recruitment committee for the next academic year.
5. The chairman of the recruitment committee may be the Director of the Doctoral School or another academic teacher who is a member of the Doctoral School Council.
6. Each discipline referred to in §1 sec. 2 should be represented in the recruitment committee by one representative who is at the same time the chairman of the relevant qualification team.
7. The member of the recruitment committee may be the academic teacher with at least the academic title of habilitated doctor and academic achievements in a given discipline.
8. A representative of the University's PhD students is a member of the recruitment committee, indicated by the competent authority of the PhD Student Council

9. A member of the recruitment committee may not be an academic teacher in relation to whom there may be objective circumstances that may raise justified concerns as to maintaining impartiality, in particular:
 - 1) is the candidate's manager or has a different employment relationship with him;
 - 2) the candidate is or was his spouse or relative or related to the second degree, or remains or has lived together with a member of the selection committee;
 - 3) the candidate is or was a person associated with a member of the commission in respect of adoption, custody or guardianship.
10. The secretary of the recruitment committee is an employee of the University who is not an academic teacher, who participates in the meetings of the committee without the right to vote.
11. The composition of the recruitment committee is made publicly available by the Rector immediately after the deadline for submitting applications by candidates.

§6

A member of the recruitment committee is obliged to maintain impartiality and objectivity in the assessment of candidates for the Doctoral School.

§7

1. The chairman of the recruitment committee is responsible for organizing and conducting the recruitment process for the Doctoral School.
2. The tasks of the recruitment committee include in particular:
 - 1) notification of candidates about the date and place of the recruitment procedure - the announcement is posted on the University's website at least seven days before the scheduled date of the procedure;
 - 2) admitting candidates to the doctoral school in the form of being entered on the list of doctoral students;
 - 3) applying to the Rector for an administrative decision to enter a foreigner on the list of doctoral students (in the case of candidates who do not have Polish citizenship);

- 4) making administrative decisions on refusing admission to a doctoral school and formulating its justification;
 - 5) considering applications for reconsideration of the case and issuing opinions on complaints submitted by candidates to the Rector in connection with the recruitment procedure.
3. The recruitment committee makes decisions by a simple majority of votes.
 4. Minutes are kept of each selection board meeting. The minutes are signed by the chairman of the committee. Attached to the protocol is the attendance list.

Competition for the Doctoral School

§8

1. Before the competition for the Doctoral School, the Rector approves the research topics within which research problems may be formulated, constituting the basis for the implementation of the doctoral dissertation.
2. The Rector announces the recruitment of research topics by March 31 of a given year.
3. Applications for approval of research topics are submitted to the office of the Doctoral School by heads of organizational units in which these topics will be implemented. The application shall be accompanied by the opinion of the coordinator of the relevant scientific discipline.
4. Topics are listed separately for the training programme in the Polish language, in the English language, and for the interdisciplinary doctorates.

§9

1. After approving the research topics by the Rector, he announces a competition to admit candidates to the Doctoral School.
2. The announcement specifies:
 - 1) recruitment calendar, including the deadline for submitting applications for admission to the Doctoral School;

- 2) research topics within which doctoral theses are planned to be carried out, relevant to a given scientific discipline; separately for each education program and specifying topics for foreigners;
 - 3) organizational units of the University relevant to the research carried out;
 - 4) the limit of places in the Doctoral School in a given year, appropriate for a given discipline - separately for each education program and for foreigners.
3. There is no limit of places for people applying for admission in the recruitment combined with recruitment referred to in §11.

§10

1. A person applying for admission to the Doctoral School is required to submit an application containing:
 - 1) name, surname, and contact details (address, telephone number, e-mail address);
 - 2) a copy of the diploma of completion of studies, and if the candidate does not have a diploma - a certificate of graduation, along with a certificate of the average grade from the levels of these studies completed so far; in the case of persons referred to §2 sec. 2 - the certificate of average grades from the course of studies to dates;
 - 3) documents confirming the knowledge of foreign languages or a declaration of knowledge of the English language sufficiently to enable education in a doctoral school;
 - 4) declaration of familiarization with the GDPR information clause;
 - 5) other required documents, including those confirming the fulfillment of the conditions referred to in §2 sec. 2 or in §12 sec. 1.
2. The annex to the application consists of:
 - 1) documents confirming the scientific activity to date, in particular the publication achievements and participation in research projects as well as participation in scientific conferences;
 - 2) presentation of one selected research topic referred to in sec. 3;
 - 3) a document confirming payment of the enrollment fee.

3. The presentation of the selected research topic should be in the form of a written study containing:
 - 1) project title;
 - 2) the purpose of the research, taking into account:
 - a) assumed research hypotheses;
 - b) research objectives;
 - 3) the state of knowledge and premises prompting the candidate to undertake the solution of the given problem;
 - 4) expected results;
 - 5) the contribution that the solution of the problem will make to the achievements of the scientific discipline;
 - 6) research concept and plan;
 - 7) proposed research methods.
4. An attachment to the application is a medical certificate confirming that there are no health contraindications for undertaking education at the Doctoral School and for carrying out research in a specific scientific discipline, based on a referral issued by the University, after submitting the application referred to in section 1.
5. Candidates applying for a place in the dormitory attach the appropriate application, in accordance with separate regulations.
6. The documents referred to in §1- 5, should be submitted electronically by the system Candidate Online Recruitment (Recruitment to the Doctoral School tab) in accordance with the recruitment calendar referred to in §10 sec. 1-3.

§11

1. Recruitment to the Doctoral School may also take place together with the contest recruitment of candidates for doctoral students for a research project financed by external institutions (NCN, NCBIR, Polish Science Foundation, etc.), or for the "Implementation doctorate" program financed by the Ministry of Education and Science, the beneficiary of which is the University.

2. If recruitment to the Doctoral School takes place together with the recruitment to the research project or to the program "Implementation Doctorate":
 - 1) recruitment mode is defined by the contest regulations of that project or the program;
 - 2) formal requirements for the candidate to the Doctoral School, if necessary, are extended with the requirements resulting from the regulations of the project or the program;
 - 3) recruitment is carried out by the competent contest commission appointed in accordance with the contest regulations of that project or the program provided that the Director of the Doctoral School or a person appointed by him participates in the commission.

§12

1. Foreigners may undertake education in Doctoral Schools and participate in scientific activities, on the basis of:
 - 1) contracts concluded by the University with foreign entities, on the terms set out in these contracts;
 - 2) decision of the minister responsible for doctoral student education;
 - 3) decisions of the NAWA director with regard to its scholarship holders;
 - 4) the decision of the NCN director to award funds for the implementation of basic research in the form of a research project, internship or scholarship, qualified for funding through a competition;
 - 5) administrative decision of the Rector.
2. Foreigners who hold a second-cycle or uniform master's degree diploma may be admitted to the doctoral school:
 - 1) obtained in Poland;
 - 2) diplomas or another document of completion of studies abroad, legalized or apostille, recognized in accordance with the regulations on the recognition of diplomas of graduation abroad;

- 3) on the basis of an international agreement recognized as equivalent to the Polish diploma of graduating from second-cycle or long-cycle studies.
3. If the certificates, diplomas or other documents obtained abroad are subject to recognition under the nostrification procedure, the foreigner is obliged to present a certificate confirming equivalence with the relevant Polish diploma of graduation, no later than by the end of the first semester of education.
4. Foreigners may be admitted to the Doctoral School for education conducted in Polish or English, if they have a certificate of knowledge of Polish or English language issued by an authorized institution or have obtained the University's confirmation that their preparation and the level of knowledge of the language allow them to undertake education in this language or submit a relevant declaration in this regard. Knowledge of the language is subject to verification during an interview with the qualification team.
5. In the case of foreigners, the documents confirming the fulfillment of the requirements referred to in sec. 2-4, constitute the necessary attachments to the application referred to in §10 sec. 1. The provisions of §10 sec. 3-5 shall apply accordingly.

§13

1. Failure to submit the documents within the required deadline will result in the candidate not being admitted to the recruitment process.
2. In justified cases, the chairman of the recruitment committee may consent to the completion of the documentation submitted with the application, but not longer than the day of the qualifying procedure.
3. In particularly justified cases, the candidate may apply to the Rector for exemption from the enrollment fee. Applications for exemption from the fee shall be settled by the last day of submitting documents for the purposes of recruitment.
4. The candidate is entitled to a reimbursement of the enrollment fee in the event of resignation from participation in recruitment before its commencement, on the basis of an application submitted to the Rector.

Qualification procedure

§14

1. The qualification procedure is carried out by the qualification team referred to in §5 sec. 1.
2. The qualification team consists of at least 3 people. Provisions to the members of the qualification team §5 sec. 4 and 5 shall apply mutatis mutandis.
3. In the case of an interdisciplinary research topic, the qualifying team consists of 4 persons, 2 from each discipline.
4. The qualification team formulates recommendations for the evaluation of candidates and draws up a ranking list.
5. The chairman of the qualification team, which draws up a protocol for this procedure, is responsible for conducting the recruitment procedure.

§15

1. The purpose of the recruitment procedure is to identify the best candidates for education at the Doctoral School.
2. The subject of the recruitment procedure is to check the predisposition of candidates to the Doctoral School by assessing:
 - 1) of the prepared research project - on a scale of 0 - 7.0 points;
 - 2) research activity so far - on a scale of 0 - 3.5 points;
 - 3) achievements so far obtained in the process of education during studies - on a scale of 0 - 1.5 points.
3. The maximum grade in the qualification procedure is 10 points.
4. The assessment referred to in §2 sec. 1 shall be determined on the basis of the presentation of a research project planned for implementation or a research project already implemented:
 - 1) the research project planned for implementation is presented to the qualifying committee, which evaluates it on the basis of the preparation of the formal project and its substantive content and the course of the discussion. The evaluation of the

project is determined on the basis of the average of the partial marks proposed by each member of the commission. The grade is rounded up to 0.5 points, according to the rules of mathematics;

- 2) if the candidate is a beneficiary of a project, program, or competition announced by national institutions competent for the distribution of funds for research, a competition announced by the Rector or an international competition for the implementation of a research project and acts as the project manager, the candidate obtains the maximum grade referred to in §2 sec. 1, i.e. 5.0 points
5. The assessment referred to in §2 sec. 2 shall be determined on the basis of the candidate's publication achievements and his participation as a contractors in research projects and active participation in scientific conferences. The maximum score is 1.5 points, and:
- 1) 0.5 points each shall be awarded for each authorship or co-authorship of a scientific article published in a scientific journal or in reviewed materials from an international conference or one scientific monograph or chapter in such a monograph, published by a publishing house, which in the year of publication in its final form was included in the list drawn up in accordance with the provisions laid down in generally applicable regulations;
 - 2) 0.25 points each is awarded for each participation in a research project in which the candidate has participated as a contractor;
 - 3) a total of 0.25 points is awarded for active (oral presentation, poster – as the first co-author) participation in international scientific conferences, at which the candidate presented the results of his research.
6. Candidates referred to in §2 sec. 2, for the evaluation of the scientific activity to date, the maximum value referred to in sec. 2 sec. 2, i.e. 1.5 points.
7. The assessment referred to in §2 sec. 3 shall be determined on the basis of the average grade from the first and second cycle of two-cycle studies or uniform master's studies and confirmed knowledge of a foreign language, where:

- 1) 1 point is awarded when the average grade accounts for more than 85% of the maximum grade for the adopted grading scale;
 - 2) 0.5 points are awarded when the average grade accounts for more than 80% of the maximum grade for the adopted grading scale;
 - 3) 0.5 points are awarded when the candidate has obtained a certificate confirming the knowledge of a modern foreign language at the language proficiency level of at least B2
8. The scale referred to in §7 sec. 1 and 2, shall apply to the so far completed first-cycle studies or the scope of uniform master's studies by the candidates referred to in §2 sec. 2.
 9. For foreigners, for the scale specified in sec. 7 sec. 1 and 2, the comparative standards apply, resulting from the applied grading scale - Annex 1.

§16

1. The university provides people with special health-related needs including people with disabilities, conditions for full participation in recruitment to the Doctoral School.
2. Support and coordination of activities for people with special needs resulting from their health condition including people with disabilities takes place in the mode and on the terms set out in the Regulations for supporting people with special needs applicable at the university.
3. The recruitment committee and the secretary's office of the Doctoral School are responsible for the implementation of support in the field of recruitment.
4. Candidate with special health-related needs including a person with a disability, if it is justified by her special needs, is entitled to rights and services including:
 - 1) ensuring the availability of the interview form, including ensuring the equivalence of the form and objectivity of the assessment.
 - 2) Ensuring the availability of the place of the interview like:
 - architectural accessibility of the building in which the interview takes place
 - the accessibility of the environment of the place where the interview takes place

(this applies to exam rooms, toilets, the secretary's office, the dressing room, the access to the building, and the car park).

3) ensuring the availability of conditions and appropriate organization of the interview like:

- proper sound system, a soundproofed room equipped with an induction loop or other solution supporting hearing;
- adequate lighting of the room;
- limiting the factors negatively affecting the candidate during the interview (for example: noise level, the number of people staying in the room);
- suitably long duration of the interview including more time for providing a written or the oral answer, preparing for an oral answer etc.;

4) ensuring the availability of a interview in a remote form, i.e. online,

5) provision of a sign language interpreter or a lip speaker,

6) use of basic technical devices or alternative form of recording.

5. Applications from candidates with special needs, including disabilities, relating to healthcare are considered in cooperation with the Office for Persons with Disabilities.

6. The medical documentation of the candidate with disabilities goes to the office for people with disabilities and is not included in the recruitment documentation.

§17

1. The secretary office of the Doctoral School publishes a list of factors harmful, burdensome and dangerous for health, hereinafter referred to as "harmful factors" that occur during education at the Doctoral School in specific areas, on the candidates' website.

2. In the disciplines referred to in sec. 1, a condition for admitting a student to classes or scientific research is to submit a medical certificate stating that there are no health indications for training at the Doctoral School, subject to sec. 4.

3. Candidates placed on the list of persons admitted to the Doctoral School in the disciplines referred to in sec. 1 receive medical referrals. Medical certificate from the examination must be submitted at the secretary's office of the Doctoral School before the start of classes or

scientific research during which harmful factors occur, but not later than by November 15th of a given year.

4. The university strives to make the widest possible range of people take up education at the Doctoral School in particular by eliminating or reducing harmful factors in individual cases.
5. A person who presents a medical certificate confirming the existence of health contraindications to study at the Doctoral School in a given discipline may take advantage of the right to request the elimination or reduction of harmful factors. In case of limiting the harmful factor, the person shall be referred for medical examinations concerning only those limited harmful factors.
6. If eliminating or reducing harmful factors is not possible or if, despite their limitation, the person presents a medical certificate stating the existence of health contraindications to study at the Doctoral School, the Director of the Doctoral School makes the decision to remove this person from the list of doctoral students.

§18

1. The record of the recruitment procedure and recommendations for the evaluation and admission of candidates to the Doctoral School are signed by all members of the qualification team.
2. Recommendations may be granted to candidates who, in terms of the assessment referred to in §15 sec. 4, point 1, obtained more than 50% of the maximum grade.

§19

1. Based on the protocols and recommendations of the qualification teams, the recruitment committee draws up ranking lists of candidates.
2. The ranking list includes:
 - 1) name and surname of the candidate;
 - 2) partial results expressed in points awarded for each element of the assessment referred to in §15 sec. 2;

- 3) the sum of partial points and the final result expressed in %, as the ratio of this sum to the maximum grade referred to in §15 sec. 3;
 - 4) a note on entering the candidate on the list of doctoral students of the Doctoral School or on the refusal of admission.
3. The ranking list determines the order of entering the Doctoral School on the list of doctoral students, within the limit of places appropriate for a given scientific discipline, in descending order of the final grade obtained.
 4. If several candidates obtain the same final grade, the order in which they are entered into the ranking list is determined by the assessment of the proposed research project. Subsequently, the position on the ranking list is determined by the assessment of scientific activity to date, without taking into account the maximum grade limit. In other cases, the provisions of §6 sec. 4 shall apply accordingly.
 5. The ranking list is signed by the chairman and members of the recruitment committee who participated in the recruitment procedure. Any deletions and changes made on the ranking list after it has been signed are prohibited.
 6. Immediately after the preparation of the ranking list, the chairman of the recruitment committee shall submit it to the Rector, who will make it available to the public on the University's website and the Doctoral School website, and at the Doctoral School office. The list includes the date of the announcement.
 7. A candidate who finds mistakes in the announced ranking list shall report them to the Rector within 3 days from the date of its announcement. The chairman of the recruitment committee shall immediately correct the indicated mistakes, and the Rector shall announce a new ranking list, in accordance with sec. 6.
 8. If a qualified candidate resigns from taking up education and becomes vacant on the list of doctoral students admitted to the Doctoral School, the Rector, in consultation with the chairman of the recruitment committee, may decide to enter another candidate on the list of doctoral students. The order of the position on the ranking list applies to the entry.

Admission to the Doctoral School

§20

1. A candidate admitted to the Doctoral School receives information about the result of the recruitment procedure.
2. A candidate admitted to the Doctoral School should, within the time limit indicated in the information referred to in sec. 1, submit to the secretary's office of the Doctoral School a personal questionnaire of the candidate for the Doctoral School according to the template specified by the Rector, together with 2 photos, in accordance with the requirements applicable to the issuance of identity cards, i.e. 35x45 mm format.
3. The decision to refuse to admit a candidate to the Doctoral School, together with the justification, is signed by the chairman of the recruitment committee.
4. An administrative decision to refuse admission to the Doctoral School may be requested for reconsideration of the case, submitted in writing, within 14 calendar days from the date of receipt of the decision. The application is considered up to 14 days from its submission.

Final Provisions

§21

In the absence of candidates for a Doctoral School in a specific scientific discipline, the Rector, in consultation with the chairman of the recruitment committee, may increase the admission limit in another discipline or announce supplementary recruitment, specifying the date of its completion.

Conversion factors for grades obtained by foreigners during studies ending with obtaining the professional title of bachelor, engineer, master or equivalent

Scale type and size	The level of the scale that determines the required% of the maximum grade	
	80%	85%
20 degrees	17	18
13 degrees	10	11
12 degrees	9	10
10 degrees	8	9
6 degrees	4	5

For a scale smaller than 6 degrees, it should be assumed that obtaining the highest level is tantamount to obtaining at least 85% of the maximum grade for this scale, and obtaining a level 1 degree lower than the maximum level is tantamount to obtaining at least 80% of the maximum grade for this scale. this scale.

Order No. 13/2025
of the Rector of the Hugo Kołłątaj University of Agriculture in Krakow
of February 19, 2025

on the announcement of the call for research topics for recruitment to the Doctoral School of the Hugo Kołłątaj University of Agriculture in Krakow for the 2025/2026 academic year

Based on § 14 sections 1 and 2 of the University Statute of June 28, 2021 (consolidated text of December 20, 2023), in conjunction with § 8 of the annex to Senate Resolution No. 18/2024

of March 20, 2024, entitled Rules for recruitment to the Doctoral School of the Hugo Kołłątaj University of Agriculture in Krakow. Hugo Kołłątaj University of Agriculture in Krakow,

I hereby order the following:

§ 1

The University announces a call for research topics for the Doctoral School of the Hugo Kołłątaj University of Agriculture in Krakow for the academic year 2025/2026, in which doctoral students will formulate topics for their doctoral dissertations.

§ 2

1. Applications for approval of research topics are submitted by heads of organizational units where these topics will be implemented in the following areas:

1) fields of agricultural sciences in the scientific discipline:

- forestry sciences,
- agriculture and horticulture,
- food and nutrition technology,
- animal husbandry and fisheries,

2) fields of engineering and technology in the scientific discipline:

- civil engineering, geodesy, and transport,
- mechanical engineering,
- environmental engineering, mining, and energy,

3) fields of exact and natural sciences in the scientific discipline of biological sciences,

4) fields of veterinary sciences in the scientific discipline of veterinary medicine,

- 5) fields of social sciences in the scientific discipline of economics and finance.
2. Research topics submitted in the discipline of agriculture and horticulture should also be submitted for the European Horticulture training program.
3. The application should include:
- 1) the title of the research topic in Polish and English;
 - 2) the research hypothesis(es) and the research objective(s) (up to 1200 characters, including spaces);
 - 3) the location where the research will be conducted;
 - 4) the estimated cost of the research and a declaration by the head of the unit regarding the possibility of research funding;
 - 5) the source of research funding;
 - 6) the source of funding for the doctoral student's scholarship.
4. The application should also specify the possibility of pursuing the research topic by foreign doctoral students.
5. The application should be accompanied by an opinion from the coordinator of the relevant scientific discipline.
6. Applications for approval of research topics should be submitted to the Doctoral School Office by March 28, 2025.

§ 3

Approval of research topics is made by the Rector.

§ 4

This order comes into effect on the date of its signing. Krakow, February 19, 2025

R e c t o r

Dr. Sylwester Tabor, DSc, Eng., prof. URK

Rector's Ordinance No. 29/2025
of the University of Agriculture in Krakow

of April 24, 2025

regarding the competition for candidates for the Doctoral School of the University of Agriculture in Krakow in the academic year 2025/2026

By Art. 200 sec. 2 of the Act from 20 July 2018 – Law on higher education and science (Journal of Laws from 2024, item 1751 as amended) in connection with § 14 sec. 1 of the University Statute from 28 June 2021 (consolidated text from 20 December 2023),

I order the following:

§ 1

I am announcing a competition for candidates for Doctoral School of the University of Agriculture in Kraków in the academic year 2025/2026.

§ 2

1. Doctoral dissertations planned for completion should correspond to one of the research topics set out in the Annex to this Order.
2. For individual research topics in the Annex, there are also University units to carry out research.

§ 3

1. The limit for candidates applying for admission to the Doctoral School, mentioned in par. § 2 sec.1, in the academic year 2025/2026 is 19 places in total, including :
 - 1.1 17 places for the candidates for education in the basic program of the scientific disciplines:
 - 1.1.1 nutrition and food technology – 2 places,
 - 1.1.2 forestry – 2 places,
 - 1.1.3 animal science and fisheries – 2 places,

- 1.1.4 agriculture and horticulture – 1 place,
- 1.1.5 environmental engineering, mining and energy – 2 places,
- 1.1.6 mechanical engineering – 2 places,
- 1.1.7 civil engineering, geodesy and transport– 1 place,
- 1.1.8 biological sciences – 1 place,
- 1.1.9 economics and finance – 1 place,
- 1.1.10 veterinary –1 place,
- 1.2 4 places for candidates - foreigners for education in the basic program of the scientific disciplines:
 - 1.2.1 nutrition and food technology – 1 place,
 - 1.2.2 forestry – 2 places,
 - 1.2.3 animal science and fisheries – 1 place.

- 2. Based on the results of the competition Rector may increase the total number of places taking into account the strategic directions of research development at the University and the quality of the submitted projects.

§ 4

- 1. The conditions and the procedure of the competition proceedings are determined by the Resolution of the Senate nr 18/2024 of 20 March 2024 on the rules of recruitment to the Doctoral School of the University of Agriculture in Krakow.
- 2. A complete set of documents required from candidates should be submitted electronically via the IRK system by 19 August 2025.
- 3. In particular candidates should prepare their application in the form of a presentation containing the characteristics of the proposed research project.
- 4. The recruitment procedure will be carried out on 18 September 2025.

§ 5

The results of the process are public.

§ 6

The Vice Rector for Science supervises the implementation of the order.

§ 7

The ordinance enters into force on the day of signing.

Krakow, April 24, 2025

Rector

Sylwester Tabor

Associate Professor

Topics for foreign candidates (academic year 2025/2026)

Discipline: forestry (9)

1.

Department of Forest Resources Management

Head of the Department: prof. dr hab. inż. Jarosław Socha

Topic: Assessment of the health of stands and spatial patterns of their mortality based on the integration of field and remote sensing data

2.

Department of Ecological Engineering and Forest Hydrology

Head of the Department: prof. dr hab. inż. Marcin Pietrzykowski

Topic: The impact of changes in surface biomass on water retention and soil erosion susceptibility

3.

Department of Forest Biodiversity

Head of the Department: prof. dr hab. inż. Jerzy Szwagrzyk

Topic: Spatial and temporal changes in prevalence and abundance of selected mammals in landscape mosaic

4.

Department of Forest Biodiversity

Head of the Department: prof. dr hab. inż. Jerzy Szwagrzyk

Topic: Temporal and spatial tree regeneration patterns in canopy gaps in natural mixed stands in Poland

5.

Department of Forest Utilization, Engineering and Technology

Head of the Department: dr hab. inż. Paweł Tylek, prof. URK

Topic: The tree-of-heaven [*Ailanthus altissima* (Mill.) Swingle] – The state-of-the-art mechanical and physical control methods and their biochemical effects

6.

Department of Ecology and Silviculture

Head of the Department: prof. dr hab. inż. Stanisław Małek

Topic: Dynamics of primary forest stands growing in mountainous areas of Southern Poland

7.

Department of Ecology and Silviculture

Head of the Department: prof. dr hab. inż. Stanisław Małek

Topic: Optimization of silviculture procedures in fir stands with a close-to-selection structure in the area of RDLP Kraków

8.

Department of Ecology and Silviculture

Head of the Department: prof. dr hab. inż. Stanisław Małek

Topic: Forest as Microplastic Filters: The role of trees in capturing airborne pollution

9.
Department of Ecology and Silviculture
Head of the Department: prof. dr hab. inż. Stanisław Małek
Topic: Geochemical characteristic of the relict charcoal hearths in forest ecosystems

Discipline: agronomy and horticulture (1)

1.
Department of Agroecology and Crop Production
Head of the Department: dr hab. inż. Andrzej Oleksy, prof. URK
Topic: Production and environmental verification of selected regenerative practices in soybean cultivation

Discipline: food technology and nutrition (4)

1.
Department of Animal Product Technology
Head of the Department: prof. dr hab. inż. Jacek Domagała
Topic: Active hydrolysates from alternative proteins and their application in hybrid and functional foods

2.
Department of Fermentation Technology and Microbiology
Head of the Department: prof. dr hab. inż. Paweł Satora
Topic: Maturation of flavored vodkas using wood chips

3.
Department of Engineering and Equipment for the Food Industry
Head of the Department: prof. dr hab. inż. Mariusz Witczak
Topic: Preparation of chitosan and chitin from selected cultivated and wild mushrooms. Properties and use in selected food products

4.
Department of Plant Biology and Biotechnology
Head of the Department: prof. dr hab. inż. Rafał Barański
Topic: Determination of the effect of biofortification with iodine and selenium and the use of salicylic acid on the health-promoting quality of oregano and dill, together with post-harvest processing

Discipline: animal science and fisheries (4)

1.
Department of Animal Nutrition and Fisheries
Head of the Department: prof. dr hab. inż. Zygmunt M. Kowalski
Topic: Can probiotics exert a protective effect against nickel toxicity in common carp (*Cyprinus carpio* L)?

2.
Department of Animal Nutrition and Fisheries
Head of the Department: prof. dr hab. inż. Zygmunt M. Kowalski
Topic: Effect of environmental parameters on behavioral activity and nutritional behavior of Herman's tortoise (*Testudo Hermanni*)

3.

Department Animal Reproduction, Anatomy and Genomics

Head of the Department: prof. dr hab.. Monika Bugno-Poniewierska

Topic: Analysis of concordance rate between results of preimplantation genetic testing (PGT-A) of domestic cat embryos depending on the degree of invasiveness of the method used

4.

Department of Genetics, Breeding and Ethology of Animals

Head of the Department: prof. dr hab. inż. Wojciech Jagusiak

Topic: The role of the rearing system and activity of rabbits in shaping meat quality and production performance

Discipline: environmental engineering, mining and energy (1)

1.

Department of Land Management and Landscape Architecture

Head of the Department: prof. dr hab. inż. Józef Hernik

Topic: Urban green infrastructure's role in mitigating heat islands

Discipline: civil engineering, geodesy and transport (1)

1.

Department of Agricultural Surveying, Cadastre and Photogrammetry

Head of the Department: dr hab. inż. Jarosław Janus, prof. URK

Topic: Concept of an indoor navigation system based on mobile device sensors

Discipline: economics and finance (1)

1.

Department of Statistics and Social Policy

Head of the Department: dr hab. inż. Dagmara Zuzek prof. URK

Topic: Educational migration of students from Kazakhstan and their professional activity in the labor market in Poland and Kazakhstan

**Competitive Recruitment Procedure
Admission of Doctoral Candidates
within Research Projects
Doctoral School of the University of Agriculture in Kraków**

1. Application to the Rector for initiating the procedure
2. Application to the Vice-Rector for appointing the committee
3. Committee report (minutes)

(copies in Polish)

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Rektor
Uniwersytetu Rolniczego im. Hugona Kołłątaja
w Krakowie

za pośrednictwem
Dyrektora Szkoły Doktorskiej

WNIOSEK

o wyrażenie zgody na przyjęcie doktoranta do Szkoły Doktorskiej
w rekrutacji połączonej z rekrutacją do projektu

-
1. **Wnioskuje o wyrażenie zgody na przyjęcie do Szkoły Doktorskiej**
w roku akademickim 2025/2026

Kandydata, który przejdzie pozytywnie rekrutację do projektu pn.: Spektrum płodowych zaburzeń alkoholowych (FASD) u pszczoły miodnej (*Apis mellifera* L.): konsekwencje anatomiczne, fizjologiczne i socjalne – Projekt OPUS – rozstrzygnięcie konkursu na projekt -czerwiec 2025 (*tytuł, akronim, numer księgowy projektu*)

finansowanego przez: Narodowe Centrum Nauki
prowadzonego :Wydział Hodowli i Biologii Zwierząt URK
(jednostka Uczelni)
dyscyplina Biologia

2. **Finasowanie projektu zapewnia/~~nie zapewnia~~ pokrycie stypendium doktoranckiego**
w wys. 5000.. zł miesięcznie przez okres 2 lat (24 miesiące)/~~semestrów~~* i dalej 6500 zł miesięcznie przez okres kolejnych 2 lat (24 miesiące)/~~semestrów~~ (w sumie 48 miesięcy)

Stypendium całkowicie opłacane przez projekt

Signed by /
Podpisano przez:

Karolina Kuszewska

Date / Data: 2024-
12-05 08:52

(podpis i pieczęć kierownika projektu)

SZKOŁY DOKTORSKIEJ

prof. dr hab. Karolina Kuszewska
(podpis i pieczęć Dyrektora Szkoły Doktorskiej)

-
3. **Wyrażam zgodę/~~nie wyrażam zgody~~***

Kraków, dnia

(podpis i pieczęć Rektora)

*niepotrzebne skreślić

dr hab. Karolina Kuszewska
Wydział Hodowli i Biologii Zwierząt
Katedra Zoologii i Dobrostanu Zwierząt

Kraków, 10.07.2025 r.

Sz. P.
prof. dr hab. inż. Marcin Rapacz
Prorektor ds. Nauki
Uniwersytetu Rolniczego
im. Hugona Kołłątaja w Krakowie

Szanowny Panie Rektorze,
w związku z realizacją projektu Opus 28 pt. „Spektrum płodowych zaburzeń alkoholowych (FASD) u pszczoły miodnej (*Apis mellifera* L.): konsekwencje anatomiczne, fizjologiczne i socjalne, nr umowy UMO-2024/55/B/NZ9/00183 (nr nadany na URK G-1228/WHiBZ) finansowanego przez Narodowe Centrum Nauki, zwracam się z prośbą o wyrażenie zgody na ogłoszenie konkursu dla doktoranta na stypendium naukowe pokrywające stypendium doktoranckie w szkole doktorskiej od października 2025 przez 4 lata. Koszt stypendium przez 4 lata kształcenia doktoranta będzie pokryty ze środków NCN-u. Jednocześnie proszę o zatwierdzenie składu komisji:

1. dr hab. Karolina Kuszewska – kierownik komisji (kierownik ww. projektu NCN)
2. prof. dr hab. inż. Zygmunt Kowalski - Dyrektor Szkoły Doktorskiej
3. dr hab. inż. Paweł Nosal prof. URK – kierownik Katedry Zoologii i Dobrostanu Zwierząt
4. prof. dr hab. Adam Tofilski

Signed by /
Podpisano przez:

Karolina Kuszewska

Date / Data: 2025-
07-10 16:39



Signed by /
Podpisano przez:

Marcin Karol Rapacz

Date / Data: 2025-
07-11 09:55

PROTOKÓŁ – INFORMACJA

z rozstrzygnięcia konkursu ogłoszonego w dniu 17 lipca 2025 na stypendium dla doktoranta do szkoły doktorskiej w projekcie badawczym pn. NCN OPUS 28 pt: „Spektrum płodowych zaburzeń alkoholowych (FASD) u pszczoły miodnej (*Apis mellifera* L.): konsekwencje anatomiczne, fizjologiczne i socjalne”, nr umowy: UMO-2024/55/B/NZ9/00183 przeprowadzonego zgodnie z zapisami:

- a. uchwały Rady NCN nr 23/2024 z dnia 4 marca 2024 r. w sprawie zmiany Regulaminu przyznawania środków na realizację zadań finansowanych przez Narodowe Centrum Nauki
- b. statutu Uniwersytetu Rolniczego im. Hugona Kołłątaja w Krakowie z dnia 28 czerwca 2021 r. (tekst jednolity z dnia 20 grudnia 2023 roku)
- c. oraz za zgodą prof. dr hab. inż. Marcin Rapacza, Prorektora ds. Nauki URK na uruchomienie konkursu oraz powołanie Komisji konkursowej do przeprowadzenia postępowania konkursowego dla doktoranta na stypendium naukowe pokrywające stypendium doktoranckie w szkole doktorskiej od października 2025 przez 4 lata

W skład Komisji Konkursowej rozstrzygającej ogłoszony konkurs weszli:

1. dr hab. Karolina Kuszewska – kierownik komisji (kierownik ww. projektu NCN)
2. prof. dr hab. inż. Zygmunt Kowalski - Dyrektor Szkoły Doktorskiej
3. dr hab. inż. Paweł Nosal prof. URK – kierownik Katedry Zoologii i Dobrostanu Zwierząt
4. prof. dr hab. Adam Tofiński

Komisja Konkursowa stwierdziła, że na w/w stanowisko zgodnie z wymaganą procedurą wpłynęła **jedna** oferta w terminie określonym w ogłoszeniu konkursowym zamieszczonym na stronie wydziału Hodowli i Biologii Zwierząt URK (<https://whibz.urk.edu.pl/aktualnosci/ogloszenia-o-konkursie-na-stypendium-dla-doktoranta-do-szkoly-doktorskiej-w-projekcie-ncn-99.html>)

Po zapoznaniu się ze złożoną dokumentacją, przeprowadzeniu jej weryfikacji pod względem zgodności z wymogami zawartymi w ogłoszeniu konkursowym Komisja stwierdziła, że dokumenty są kompletne i zaprosiła kandydata Panią **Julię Wincenciak** na rozmowę kwalifikacyjną, która odbyła się 1 września 2025 roku.

W trakcie rozmowy kwalifikacyjnej komisja zadała kandydatce następujące pytania

1. Czy mogłoby Pani opowiedzieć coś o sobie
2. Dlaczego to Pani powinna być wybrana na stypendystkę w ramach tego projektu?
3. Czy ma Pani doświadczenie laboratoryjne?

4. Jaka jest Twoja znajomość języka angielskiego?

5. Opisz nam Twoi ukochani ze kilku lat?

Komisja ustaliła, że rekomenduje/ nie rekomenduje przyznanie stypendium dla doktoranta Pani mgr Julii Wincenciak w projekcie badawczym : „Spektrum płodowych zaburzeń alkoholowych (FASD) u pszczoły miodnej (*Apis mellifera* L.): konsekwencje anatomiczne, fizjologiczne i socjalne”(UMO-2024/55/B/NZ9/00183)

Podpisy Członków Komisji Konkursowej:

1. dr hab. Karolina Kuszewska – kierownik komisji (kierownik ww. projektu NCN)

Karolina Kuszewska

2. prof. dr hab. inż. Zygmunt Kowalski - Dyrektor Szkoły Doktorskiej

Zygmunt Kowalski

3. dr hab. inż. Paweł Nosal prof. URK – kierownik Katedry Zoologii i Dobrostanu Zwierząt

Paweł Nosal

4. prof. dr hab. Adam Tofilski

Adam Tofilski

**Resolution No. 5/2025
of the Admissions Committee for the Doctoral School
of the Hugo Kollataj University of Agriculture in Kraków
of September 18, 2025**

Based on Article 200 section 4 of the Act of 20 July 2018 - Law on Higher Education and Science (consolidated text: Journal of Laws of 2023, item 742, as amended), hereinafter referred to as the "Act", in connection with § 11 of the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków, adopted by Resolution of the University Senate No. 23/2023 of 29 March 2023, as amended and § 18 of the Rules for Admission to the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków, adopted by Resolution of the University Senate No. 18/2024 of 20 March 2024,

§ 1

Based on the protocols and recommendations of the selection teams, the recruitment committee adopts the following ranking list of candidates for the academic year 2025/2026 for scientific disciplines:

Name and surname of the candidate	Position in the discipline ranking list	Points for:			Total points	% of maximum rating	Inclusion in the ranking list YES/NO
		preparation of a research project	current scientific activity	achievements in higher education			
Candidates from Poland							
Forestry							
Lipiec Maksymilian	1	6,0	1,0	1,5	8,5	85	YES
Kawa Filip	2	6,0	0	1,5	7,5	75	YES
Rozenbaum Jakub	3	4,0	0	1,5	5,5	55	NO
Zdunek Nikodem	4	3,5	1,0	1,0	5,5	55	NO
Flis Piotr	5	5,0	0	0	5,0	50	NO
Agronomy and horticulture							
Szczechura Patrycja	1	6,5	0,5	0,5	7,5	75	YES
Stożek Bartłomiej	2	5,5	0	0,5	6,0	60	YES
Chudzik Wiktor	3	3,0	0	0	3,0	30	NO
Food technology and nutrition							
Duda Damian	1	6,7	1,0	0	7,7	77	YES
Gwóźdź Gabriela	2	6,0	0,5	0,5	7,0	70	YES
Wajda Natalia	3	5,7	0	1,0	6,7	67	NO
Wilk AgNOszka	4	1,7	0	0,5	2,2	22	NO
Animal science and fisheries							
Lasko Malwina		7,0	1,5	1,5	10,0	100	YES
Kostarczyk Katarzyna		7,0	1,25	1,0	9,3	93	YES
Głowacz-Cich Wiktoria		7,0	1,25	1,0	9,3	93	YES
Ganszczyk Barbara		5,5	0,75	1,0	7,3	73	NO
Beleć Klaudia		4,5	0,75	1,5	6,8	68	NO
Janas Zuzanna		5,0	0	1,0	6,0	60	NO
Tomczak Piotr		2,0	1,5	1,0	4,5	45	NO
Molczyk Michał		3,5	0	0	3,5	35	NO
Biological sciences							
Wodniak Jagoda	1	7,0	0,25	0,5	7,75	77,5	YES
Skotniczny Marek	2	6,0	0,25	1,0	7,25	72,5	YES
Environmental engineering, mining and energy							
Nowak Przemysław	1	6,0	1,5	0	7,5	75	YES
Malik Adrian	2	2,0	0	0	2,0	20	NO
Civil engineering, geodesy and transport							

Małyszek Hubert	1	7,0	1,0	1,0	9,0	90	YES
Malec AgNOszka	2	7,0	0	1,0	8,0	80	YES
Mechanical engineering							
Skrzypek Łukasz	1	5,0	0,5	0	5,5	55	YES
Jończy Rafał	2	5,0	0	0	5,0	50	YES
Veterinary medicine							
Zapała Gabriela	1	4,3	0,75	0,5	5,55	55	YES
Zajac Karolina	2	3,0	0	0	3,0	30	NO
Misiarz Anna	3	0	0	0	0	0	NO
Foreign candidates							
Forestry							
Delgado Moreira María	1	6,5	1,5	1,0	9,0	90	YES
Shoukat Muhammad Haseeb	2	6,5	0	1,0	7,5	75	YES
Agronomy and horticulture							
Ummesara	1	6,5	0,5	1,5	8,5	85	YES
Abadin Zain Ul	2	6,0	1,5	1,0	8,5	85	NO
Food technology and nutrition							
Liubko Maryna	1	5,83	0,75	1,0	7,58	76	YES
Tahmoresi Farideh	2	5,17	1,25	1,0	7,42	74	NO
Dubouskaya Nadzeya	3	6,33	0	1,0	7,33	73	NO
Luca Arvisa	4	0	0	0	0	0	NO
Animal science and fisheries							
Davoudi Saragoli Arash	1	5,0	1,5	0,5	7,0	70	NO
Economics and finance							
Appassova Aliya	1	6	0,5	1	7,5	75	YES
Shahwar Dur E	2	1,5	0,5	1	3,0	30	NO

§ 2

The resolution comes into force on the date of its adoption.

Members of the Recruitment Committee:

- prof. dr hab. inż. Zygmunt M. Kowalski – Chairman
- prof. dr hab. inż. Janina Gospodarek
- prof. dr hab. inż. Wojciech Jagusiak
- dr hab. inż. Arkadiusz Stańczykiewicz, prof. URK
- dr hab. inż. Sławomir Pietrzyk, prof. URK
- dr hab. inż. Katarzyna Hura, prof. URK
- dr hab. inż. Dariusz Młyński, prof. URK
- dr hab. inż. Marek Ślusarski
- dr hab. inż. Michał Cupiał, prof. URK
- dr hab. inż. Dagmara Zuzek, prof. URK
- dr hab. Ewelina Węsierska, prof. URK
- mgr inż. Alicja Matera - Representative of doctoral students
- dr inż. Joanna Krużel – Secretary

Name and surname of the candidate	Position in the discipline ranking list	Inclusion in the ranking list YES/NO
Candidates from Poland		
Forestry		
Lipiec Maksymilian	1	YES
Kawa Filip	2	YES
Rozenbaum Jakub	3	NO
Zdunek Nikodem	4	NO
Flis Piotr	5	NO
Agronomy and horticulture		
Szczechura Patrycja	1	YES
Stożek Bartłomiej	2	YES
Chudzik Wiktor	3	NO
Food technology and nutrition		
Duda Damian	1	YES
Gwóźdź Gabriela	2	YES
Wajda Natalia	3	NO
Wilk AgNoszka	4	NO
Animal science and fisheries		
Lasko Malwina	1	YES
Kostarczyk Katarzyna	2	YES
Głowacz-Cich Wiktoria	3	YES
Gansczyk Barbara	4	NO
Beleć Klaudia	5	NO
Janas Zuzanna	6	NO
Tomczak Piotr	7	NO
Molczyk Michał	8	NO
Biological sciences		
Wodniak Jagoda	1	YES
Skotniczny Marek	2	YES
Environmental engineering, mining and energy		
Nowak Przemysław	1	YES
Malik Adrian	2	NO
Civil engineering, geodesy and transport		
Małyszek Hubert	1	YES
Malec AgNoszka	2	YES
Mechanical engineering		
Skrzypek Łukasz	1	YES
Jończy Rafał	2	YES
Veterinary medicine		
Zapała Gabriela	1	YES

Zajac Karolina	2	NO
Misiarz Anna	3	NO
Foreign candidates		
Frestry		
Delgado Moreira María	1	YES
Shoukat Muhammad Haseeb	2	YES
Agronomy and horticulture		
Ummesara	1	YES
Abadin Zain Ul	2	NO
Food technology and nutrition		
Liubko Maryna	1	YES
Tahmoresi Farideh	2	NO
Dubouskaya Nadzeya	3	NO
Luca Arvisa	4	NO
Animal science and fisheries		
Davoudi Saragoli Arash	1	NO
Economics and finance		
Appassova Aliya	1	YES
Shahwar Dur E	2	NO

**Resolution No. 1/2024
of the Senate of the Hugo Kołłątaj University of Agriculture in Kraków
of 12 January 2024**

Concerning: an amendment to the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków

In an open vote, the Senate adopted Resolution No. 1/2024 with the following wording:

Pursuant to Article 205(2) of the Act of 20 July 2018 – Law on Higher Education and Science (consolidated text: Journal of Laws of 2023, item 742, as amended), in connection with § 18(1)(9) of the University Statute of 28 June 2021 (consolidated text of 20 December 2023),

upon the motion of the Rector, following consultation with the Doctoral Students' Self-Government,

- 1. The Senate of the Hugo Kołłątaj University of Agriculture in Kraków amends Senate Resolution No. 23/2023 of 29 March 2023 on the adoption of the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków – as follows:**
 - 1. in § 7 of Annex No. 1 to Senate Resolution No. 23/2023, paragraph 5 is added, reading as follows:**
 - 5. At the request of the Director of the Doctoral School, the Rector may appoint a Deputy Director of the Doctoral School and define his/her responsibilities.**
- 2. This Resolution enters into force on the date of its adoption.**

Eligible voters: 40 members of the Senate;

Votes cast: 30.

Valid votes: 30, all in favour.

Chairman of the Senate

dr hab. inż. Sylwester Tabor, Prof. URK

Regulations of the Doctoral School

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Subject of the Regulations

§ 1

The Hugo Kołłątaj University of Agriculture in Kraków, hereinafter referred to as the University, is the entity operating the Doctoral School, established pursuant to the Act of 20 July 2018 – Law on Higher Education and Science and the University Statute.

§ 2

1. At the University, doctoral students pursue education at the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków, hereinafter referred to as the Doctoral School.
2. The Doctoral School is established by the Rector.
3. Whenever these Regulations refer to:
 1. the Act – this shall mean the Act of 20 July 2018, Law on Higher Education and Science, which defines the principles of doctoral education and the conditions for awarding the doctoral degree;
 2. the University – this shall mean the Hugo Kołłątaj University of Agriculture in Kraków;
 3. the Statute – this shall mean the Statute of the Hugo Kołłątaj University of Agriculture in Kraków, which defines the principles of organization and functioning of the University, including the rules for organizing education and conducting research;
 4. the Rector – this shall mean the single-person governing body of the University, whose competences include managing the University and issuing regulations and administrative decisions, including those concerning doctoral students;
 5. the Senate – this shall mean the collegial body of the University, representing the highest authority of its community, whose competences include adopting resolutions, including those relating to doctoral education;
 6. the semester – this shall mean the stage of education defined in the organization of the academic year, ending with the requirement to obtain all credits and examinations specified in the education program for this stage, and to settle tasks scheduled for implementation during this period, including those in the individual research plan;
 7. the university IT system – this shall mean the IT system used, among other things, for the management and documentation of education at the Doctoral School;
 8. the Regulations – this shall mean these Regulations of the Doctoral School.
4. The tasks of the Rector specified in the Regulations may, at the University, be carried out by a Vice-Rector holding a managerial position, whose responsibilities include matters related to doctoral education.

§ 3

1. The Regulations define the rules for organizing the education of doctoral students and the principles of operating the Doctoral School.
2. The Regulations specify in particular:

1. the organizational structure and scope of competences of the bodies of the Doctoral School;
 2. the rules for undertaking and resigning from education at the Doctoral School;
 3. the procedure for appointing and changing the supervisor, supervisors, or assistant supervisor;
 4. the procedure for preparing and evaluating the individual research plan and the method of conducting a mid-term assessment of its implementation, including the procedure for appointing and the principles of functioning of the committees carrying out such assessments;
 5. the procedures and criteria for evaluating progress in preparing the doctoral dissertation;
 6. the rules for passing the subjects provided for in the education program, including teaching practice where the obligation to undertake it arises from the program;
 7. the rules for submitting the doctoral dissertation, including the conditions for extending the submission deadline;
 8. the method of documenting the course of education.
3. The Regulations define the rights and obligations of the doctoral student, including the rules for granting leaves.
 4. The University's doctoral students form a doctoral student self-government. The representative body of all doctoral students of the University is the relevant doctoral student self-government body, hereinafter referred to as the doctoral student self-government, which operates in accordance with the Act, the Statute, and the regulations of the doctoral student self-government.
 5. Unless otherwise provided in the Regulations, applications (declarations, appeals, etc.) submitted by doctoral students should be submitted in writing, in electronic form (with a qualified electronic signature), in electronic form with a trusted or personal signature, in electronic form via email within the urk.edu.pl domain, or through the university IT system.
 6. In the case of applications for reconsideration of cases concerning administrative decisions and appeals against administrative decisions, the form specified in accordance with the Administrative Procedure Code shall apply.
 7. Unless otherwise stated in the Regulations or the Act, the deadlines established in the Regulations may be postponed or reinstated upon a justified request from the doctoral student, particularly due to health-related reasons.

Aims and Tasks

§ 4

1. The Doctoral School enables doctoral students to pursue interdisciplinary education and to acquire high research competencies and scientific independence within a specific scientific discipline, in accordance with the authorizations held by the University:
 1. in the field of agricultural sciences, in the scientific disciplines of:
 - forestry;
 - agriculture and horticulture;

- food technology and nutrition;
- animal science and fisheries;
- 2. in the field of engineering and technical sciences, in the scientific disciplines of:
 - civil engineering, geodesy and transport;
 - mechanical engineering;
 - environmental engineering, mining and energy;
- 3. in the field of social sciences, in the scientific discipline of economics and finance;
- 4. in the field of exact and natural sciences, in the scientific discipline of biological sciences;
- 5. in the field of veterinary sciences, in the discipline of veterinary science.
- 2. Education of doctoral students at the Doctoral School lasts 8 semesters. It is conducted based on education programs and an individual research plan, and concludes with the submission of the doctoral dissertation.

§ 5

1. The Doctoral School prepares the doctoral student for research and research-and-development work. It ensures the possibility for the doctoral student to develop their own creative initiatives.
2. In particular, the Doctoral School provides conditions for full participation in education and scientific research as well as in the life of the University and the academic community, including:
 1. education within an interdisciplinary education program, consisting of compulsory and elective classes;
 2. conducting independent scientific research in accordance with the individual research plan;
 3. preparing scientific publications by the doctoral student;
 4. preparing the doctoral dissertation under the supervision of a supervisor or supervisors, or a supervisor or supervisors and an assistant supervisor.
3. Education at the Doctoral School enables doctoral students to achieve learning outcomes appropriate to full qualifications at level 8 of the Polish Qualifications Framework, as referred to in the provisions on the Integrated Qualifications System, in the form of:
 1. advanced knowledge significantly influencing the development of the discipline related to the area of scientific research conducted, including the latest scientific achievements;
 2. skills related to the methodology and methods of conducting scientific research, as well as analysis and creative synthesis of scientific output, for identifying and solving research problems and creating new elements of this output;
 3. social competencies relating to scientific research activities and the social role of the scholar, including the ability to undertake challenges in the professional and public spheres with consideration of their ethical dimension.
4. The Doctoral School supports the development of the doctoral student and, in this respect:

1. is open to cooperation with other doctoral schools and enables doctoral students to participate in classes included in the education programs of those schools;
2. undertakes actions to promote the exchange of scientific ideas and cooperation in research teams, including international ones;
3. provides conditions for participation in the scientific community in Poland and abroad.

§ 6

In the event of discontinuation of education in a given discipline, the University ensures that doctoral students preparing a doctoral dissertation in that discipline may continue their education at another doctoral school in that discipline. If no such doctoral school exists, the University shall cover the costs of the doctoral procedure in the extramural mode for persons who have lost the possibility to complete their education.

Organizational Structure

§ 7

1. The Doctoral School is a university-wide unit.
2. The Doctoral School is managed by the Director of the Doctoral School.
3. The Doctoral School includes the Doctoral School Council.
4. The Director and the Doctoral School Council are appointed by the Rector, in accordance with the procedure specified in the Statute.

§ 8

1. The Director of the Doctoral School holds a managerial position at the University and is responsible for matters concerning doctoral students related to education at the Doctoral School.
2. In particular, the Director of the Doctoral School:
 1. chairs the Doctoral School Council;
 2. represents the unit within the University;
 3. submits motions to relevant University bodies in all matters concerning the unit;
 4. supervises the implementation of education programs at the Doctoral School;
 5. submits motions to relevant University bodies regarding activities related to the appointment and change of supervisor(s) and assistant supervisor, as well as the assessment of the progress of research and the doctoral dissertation conducted by doctoral students.
3. The Director organizes the work of the Doctoral School and, in this respect:
 1. ensures proper working conditions in the unit, particularly in accordance with occupational health and safety principles;
 2. ensures the proper and rational use of the unit's property, including by providing opportunities to use its infrastructure and assets;
 3. performs other activities provided for by law, the provisions of the Statute, as well as resolutions and ordinances of the University bodies.

4. After obtaining the opinion of the body specified in the Statute and the opinion of the doctoral student self-government, the Director of the Doctoral School submits to the Senate motions regarding the establishment, closing, and amendments to education programs at the Doctoral School.
5. After obtaining the opinion of the Doctoral School Council, the Director of the Doctoral School:
 1. submits to the Rector, by 31 December of a given year, an annual report on the activities of the Doctoral School;
 2. in consultation with the doctoral student self-government, submits motions to the Senate regarding amendments to the Regulations;
 3. prepares and submits to the Senate a draft of admission rules for the Doctoral School;
 4. prepares the Doctoral School for evaluation.
6. The Director is responsible for the financial management of the Doctoral School and, in this respect, is obliged to implement the University's material and financial plan.

§ 9

1. The Doctoral School Council exercises substantive supervision over the education of doctoral students. It serves as an advisory body to the Rector in matters carried out by the Doctoral School.
2. The tasks of the Council include, in particular:
 1. issuing opinions on the Regulations of the Doctoral School;
 2. developing a draft of the education programs in the Doctoral School;
 3. issuing opinions on the draft admission rules to the Doctoral School;
 4. issuing opinions on reports by the Director of the Doctoral School;
 5. issuing opinions on organizational changes within the Doctoral School;
 6. exercising substantive supervision over education in the Doctoral School and over the system of quality assurance of education at the Doctoral School.
3. The Doctoral School Council issues opinions on the assignment of classes to academic staff and other persons conducting education in the Doctoral School.
4. The Doctoral School Council initiates and undertakes actions to ensure high quality of education in the Doctoral School, in particular by evaluating the conducted classes and assessing the learning outcomes achieved by doctoral students.
5. The principles for evaluating the effectiveness of the University's quality assurance system are defined in the regulations on the University's education quality system.

§ 10

1. The administrative and organizational support of the Doctoral School is provided by the Doctoral School Secretariat.
2. The Doctoral School Secretariat also carries out tasks related to documenting the course of education in the Doctoral School.

Commencement of Education

§ 11

1. Admission to the Doctoral School is conducted through a competitive process, under the rules defined by the Senate. The results of the competition are public.
2. Admission to the Doctoral School is effected by entry into the list of doctoral students.
3. Refusal of admission to the Doctoral School is issued by administrative decision. A negative decision may be appealed by submitting a request for reconsideration of the case.
4. Commencement of education and the acquisition of doctoral student rights occurs at the moment of taking the oath. The wording of the oath is specified in the Statute.
5. Failure to take the oath within the designated deadline is equivalent to resignation from undertaking education at the Doctoral School.
6. A person may be a doctoral student in only one Doctoral School at a time.
7. No fees are charged for the education of doctoral students.
8. Education of a doctoral student concludes with the submission of the doctoral dissertation.

§ 12

1. At the University's Doctoral School, education may also be undertaken by:
 1. doctoral students from other doctoral schools – based on an agreement concluded between the University and the entity operating the School, under the rules defined in that agreement;
 2. international doctoral students, including those participating in international exchange programs, based on:
 - the decision of the minister,
 - international agreements, including those concluded by the University, under the rules defined in those agreements,
 - the decision of the Director of NAWA in relation to its scholarship holders,
 - the decision of the Director of NCN granting financial resources for the implementation of basic research in the form of a research project, internship, or scholarship awarded through a competitive process,
 - the administrative decision of the Rector.

Rights and Obligations of the Doctoral Student

§ 13

1. The doctoral student is obliged to act in accordance with the oath, these Regulations, and other generally applicable legal provisions and internal regulations in force at the University.
2. The doctoral student is obligated to uphold the principles of scientific ethics.
3. All rights and obligations of the doctoral student expire on the date of removal from the list of doctoral students.

4. For violations of the regulations in force at the University and for conduct unbecoming of a doctoral student, the doctoral student bears disciplinary responsibility as defined by separate regulations.

§ 14

1. The doctoral student has the right to:
 1. acquire knowledge as part of interdisciplinary education and develop their own scientific interests, including outside the University;
 2. receive scientific supervision and conduct research, as well as participate in research work carried out at the University;
 3. participate in national and international conferences related to the implementation of the individual research plan and doctoral dissertation;
 4. use the University's educational facilities, sports facilities, equipment and resources, as well as receive assistance from academic teachers and University authorities;
 5. join doctoral student organizations at the University under the rules defined in separate regulations;
 6. social insurance and universal health insurance under the rules defined in separate regulations;
 7. receive awards and distinctions; the rules for granting them are defined in a separate regulation;
 8. receive a doctoral scholarship under the rules defined in the Act;
 9. extend education at the Doctoral School under the rules defined in the Act;
 10. access personal data concerning themselves administered by the University, to correct and modify this data, and to exercise other rights arising from personal data protection regulations.
2. The doctoral student has the right to submit applications to the Director of the Doctoral School concerning their education at the School, including applications for a change of supervisor or assistant supervisor and a change of the deadline for submitting the doctoral dissertation.
3. With the consent of the Director of the Doctoral School, the doctoral student may:
 1. carry out part of their doctoral work outside the University;
 2. undertake national and international research internships.Obtaining consent requires the opinion of the supervisor or supervisors.
4. The doctoral student is entitled to participate in classes conducted at the University that are not included in the Doctoral School's curriculum, provided prior consent is obtained from the instructor.
5. The University unit in which the doctoral student conducts research provides support for the doctoral student's independent research work throughout their education at the Doctoral School, including during their stay abroad.

§ 15

1. The doctoral student may apply for accommodation in a student residence hall or for meals at the University's student cafeteria under the terms and procedures specified in the regulations for student benefits. Under the same

- conditions, the doctoral student may apply for accommodation of their spouse, child, or personal assistant in the University residence hall.
2. The doctoral student may receive a student loan under the rules defined in the Act.

§ 16

1. The doctoral student should have an identifier for authors and co-authors of scientific publications – ORCID (Open Researcher and Contributor ID).
2. The responsibilities of the doctoral student include, in particular:
 1. implementation of the curriculum and individual research plan;
 2. participation in classes provided in the curriculum;
 3. preparation of the individual research plan in agreement with the supervisor or supervisors and submission of it to the Doctoral School's secretariat within the required deadline;
 4. conducting their own scientific research;
 5. submission of complete reports and applications within the required deadlines;
 6. participation or co-participation in the scientific and research work of the unit in which the individual research plan and doctoral dissertation are carried out;
 7. participation in scientific seminars at the University unit where the doctoral student conducts research;
 8. participation in scientific seminars organized at the University concerning issues relevant to the scientific discipline in which the doctoral dissertation is carried out;
 9. preparation and submission of the doctoral dissertation within the deadline specified in the doctoral student's individual research plan.
3. During the period of education, the doctoral student is required to:
 1. publish as author or co-author at least 2 works, including:
 - scientific articles published in a scientific journal or in peer-reviewed proceedings of an international conference, or in a scientific monograph, or
 - chapters in such a monograph published by a publishing house that, in the year of publication of the final form, was included in the list prepared in accordance with the provisions defined in the Act;
 2. prepare and submit at least 1 application for a research grant:
 - as part of a project, program, or competition announced by NAWA, NCBiR, NCN, or in an international competition for the implementation of a research project, or a research or teaching project financed from the European Union budget or by another grant-awarding entity.
4. The doctoral student is required to notify the Director of the Doctoral School in writing of any changes to personal data collected in the University's IT system immediately, but no later than within 1 month of the change.
5. In exceptional cases, the doctoral student may carry out their education under an individual study mode. Consent for this mode is granted, upon the doctoral student's request, by the Director of the Doctoral School after obtaining a positive opinion from the supervisor or supervisors, as well as the Doctoral School Council. The individual study mode may be carried out for no longer

than 2 semesters. The rules of the individual study mode for the doctoral student are defined by the Director of the Doctoral School.

§ 17

1. The doctoral student is entitled to rest breaks and leaves.
2. Rest breaks not exceeding 8 weeks per year should be taken during periods free from teaching activities and their dates agreed with the supervisor or supervisors.
3. At the request of the doctoral student, the Director of the Doctoral School suspends education for the period of maternity leave, maternity leave equivalent, paternity leave, and parental leave as defined in separate regulations.
4. The doctoral student may not be employed as an academic teacher or research staff. This prohibition does not apply to the employment of the doctoral student:
 1. for the purpose of carrying out a research project financed in competitions by NAWA, NCBiR, NCN, from the European Union budget, or by another grant-awarding entity;
 2. after a mid-term evaluation completed with a positive result, provided that in the case of employment exceeding half of the full-time working hours, the amount of the scholarship is 40% of the monthly scholarship amount referred to in section 4 point 2;
 3. who is not entitled to a doctoral scholarship.

§ 18

1. The doctoral student is required to perform tasks defined by the head of the University unit in which they conduct research as part of the individual research plan. The scope of this involvement should be agreed with the supervisor or supervisors.
2. Any absence of the doctoral student from classes specified in the curriculum or from the University unit where research is conducted must be immediately reported to the Director of the Doctoral School, as well as to the supervisor or supervisors and the head of the unit where the doctoral student conducts research.
3. Inability to participate in classes or implement the individual research plan due to health reasons should be appropriately documented, for example by submitting a relevant medical certificate within 7 days from the day of the absence or immediately if meeting this deadline is not possible.
4. In the case of prolonged absence, i.e., an absence longer than 1 month, the doctoral student is required to notify the Director of the Doctoral School of the inability to participate in classes within 14 calendar days, counting from the first day of the absence.

Doctoral Scholarship

§ 19

1. A doctoral student without a doctoral degree receives a doctoral scholarship, the total duration of which in doctoral schools may not exceed 4 years.
2. A doctoral student does not receive a doctoral scholarship if they receive remuneration of at least 150% of the amount of the doctoral scholarship to which they are entitled, due to employment in connection with the implementation by the University of a project, program, or competition announced by NAWA, NCBiR, NCN, or an international competition for the implementation of a research project; or a research or teaching project financed from European Union budget funds or by another grant-awarding entity, for the duration of such employment.
3. The period referred to in section 1 does not include:
 1. the suspension period referred to in §17 section 3;
 2. the period of education in the Doctoral School for persons who have lost the possibility of completing education, as referred to in § 6.
3. The doctoral scholarship is paid by the University.
4. The monthly amount of the doctoral scholarship is determined by the Rector. This provision does not apply to the amount of research scholarships covering doctoral scholarships awarded under agreements with funding entities.
5. The amount of the doctoral scholarship may not be lower than the amounts indicated in the Act and may depend on the achievements of the doctoral student.

§ 20

1. During the period of suspension of education, the rules for determining the amount of the doctoral scholarship apply accordingly to the rules for determining maternity allowance, except that the basis for calculating the allowance is considered to be the amount of the monthly doctoral scholarship referred to in the Act, due on the day the suspension request is submitted.
2. A doctoral student holding a disability certificate, a certificate of the degree of disability, or another certificate referred to in the regulations on vocational and social rehabilitation and employment of persons with disabilities receives a doctoral scholarship increased by 30% of the amount indicated in the Act.
3. A doctoral student who submits the doctoral dissertation earlier than the completion date of education provided for in the curriculum receives a doctoral scholarship until the date on which the education completion deadline expires, but no longer than for 6 months, subject to the total maximum period referred to in §19 section 1.

Education Program

§ 21

1. The Doctoral School provides education based on curricula including universal design, established by the Senate.
2. The curriculum determines in particular:
 1. the learning outcomes referred to in § 5 section 2, corresponding to the scientific disciplines within which doctoral education is conducted;
 2. courses, workshops, seminars and other activities that enable the achievement of the assumed learning outcomes, including courses expanding knowledge and skills:

- in the field of a specific scientific discipline, enabling the implementation of research and the use and creative development of methods, techniques and research tools necessary to solve problems or perform research-related tasks specific to that discipline;
 - in other scientific disciplines, enabling the creative identification and innovative solving of complex problems or undertaking research-related tasks, including within interdisciplinary teams.
3. The curriculum is implemented in Polish or English.
 4. The curriculum provides for practical training in the form of teaching or assisting in teaching, not exceeding 60 teaching hours per year.
 5. The curriculum for doctoral students is established by the Senate after consultation with the councils of the disciplines under which education is conducted and the doctoral student government.

§ 22

1. The curriculum allows for a high degree of individualization of education for the doctoral student. The curriculum includes:
 1. compulsory general courses, intended mainly for doctoral students of a given cohort;
 2. elective specialist courses, participation in which depends on the subject matter, scope, and degree of advancement in the implementation of the individual research plan.
2. Specialist courses:
 1. should lead to an increase in key competences appropriate to the scientific discipline concerned; therefore, they should be conducted by researchers with recognized international scientific achievements;
 2. should be conducted using various teaching methods and organizational forms, in particular lectures, seminars, and research and methodological workshops, including those on the use of specialist research methods and tools.
3. The doctoral student selects specialist courses at least 1 month before the start of the relevant semester. The individual plan for the implementation of specialist courses must be agreed with the supervisor or supervisors.
4. It is permissible to achieve part of the learning outcomes using remote education methods and techniques.
5. The plan for the implementation of specialist courses is approved by the Director of the Doctoral School.

§ 23

1. In the education program, all forms of classes completed by the doctoral student referred to in § 22 section 1 are assigned ECTS credits.
2. The education program specifies the annual number of ECTS credits that the doctoral student should obtain within homogeneous groups of classes, in particular:
 1. compulsory classes;
 2. scientific conferences and seminars;
 3. university seminars – interdisciplinary and specialist;

4. specialist workshops, including those conducted by foreign experts and specialists with practical experience.
3. The education program also specifies the number of ECTS credits that may be obtained through education using distance learning methods and techniques.
4. The number of ECTS credits should take into account the level of the doctoral student's activity, including the form of presentation of their own achievements.
5. ECTS credits are not awarded for internships conducted in the form of teaching or assisting in teaching.
6. Classes completed during international exchange may be included in the classes referred to in section 2 point 1, and a scientific internship, including a foreign internship, may be included in the classes referred to in section 2 points 2–4.

§ 24

1. Compulsory classes are credited by academic teachers and other persons entrusted by the Director of the Doctoral School with conducting these classes, by entering grades in the education documentation on a 2–5 scale.
2. To account for the active participation of the doctoral student in specialist classes, including those completed abroad, the submission of an appropriate certificate or confirmation is required.
3. If the education program provides for internships in the form of teaching or assisting in teaching, the completion of such activities is confirmed by the relevant dean.
4. Professional internships of foreign doctoral students are conducted in English or Polish.

Organization of Education

§ 25

1. The academic year at the University lasts from 1 October to 30 September and is divided into 2 semesters.
2. The Rector determines and announces to University staff and students the schedule and organization of the academic year at least 3 months before it begins.
3. In the Doctoral School, classes in the 1st semester begin with the winter semester.

§ 26

1. In the Doctoral School, the credit period is the semester.
2. The Director of the Doctoral School:
 1. based on the education program, prepares schedules for the implementation of compulsory classes for the given year of doctoral study, referred to in § 22 section 1 point 1, at least 1 week before the start of the relevant semester;
 2. approves individual plans for the implementation of specialist classes referred to in § 22 section 3 and makes adjustments during the semester,

upon the doctoral student's request endorsed by the supervisor or supervisors.

3. The classes referred to in section 2 must be completed and passed by the doctoral student within the deadline applicable to the end of the given semester, as specified in the organization of the academic year.
4. The doctoral student is obliged to submit to the Office of the Doctoral School a report on the implementation of the education program no later than 14 days before the end of the relevant semester, together with copies of the necessary attachments referred to in § 24 sections 2 and 3.
5. The Director of the Doctoral School performs the semester settlement of classes completed and passed by doctoral students.
6. Lack of semester settlement of classes may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

Supervisor and Assistant Supervisor

§ 27

1. The University body designated in the Statute, competent to award the doctoral degree in a given scientific discipline, appoints a supervisor or supervisors for the doctoral student within 3 months from the date of commencing education at the Doctoral School.
2. The appointment of a supervisor or – in accordance with § 28 – supervisors is made upon the doctoral student's request submitted to the Doctoral School office. The request should be submitted within 1 month from the date of commencing education at the Doctoral School. In the request, the doctoral student indicates the academic teacher who, in their opinion, may act as the supervisor.
3. The request also includes a justification in which the doctoral student specifies, in particular:
 1. the proposed topic and purpose of the doctoral thesis, with the topic clearly referring to the subject on the basis of which the doctoral student was admitted to the Doctoral School;
 2. an outline of the research issues and the scope of research necessary to be conducted;
 3. the expected results and their potential use to advance the discipline.
4. Submission of the request by the doctoral student also requires the opinion of the head of the relevant unit of the University, regarding the feasibility of the research referred to in section 3 point 2.
5. The proposed supervisor or supervisors submit to the Director of the Doctoral School a declaration of willingness to provide scientific supervision to the doctoral student, as well as a declaration of compliance with the requirements for holding this position, as specified in §§ 29 and 30.
6. Following formal verification, the Director of the Doctoral School forwards the request for appointment of the supervisor or supervisors without delay to the chair of the body referred to in section 1.
7. Failure by the doctoral student to submit the request within the deadline referred to in section 2 may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 28

1. The doctoral student may prepare an interdisciplinary doctoral thesis, whose research issues and scope of research extend beyond the field of one scientific discipline.
2. In the case of an interdisciplinary thesis, 2 supervisors are appointed, each competent in one of the disciplines to which the research issue pertains. The provisions of § 27 sections 1–5 apply accordingly.

§ 29

1. A supervisor may be a person holding a post-doctoral degree (doktor habilitowany) or the title of professor, who has achievements in the scientific area to which the doctoral thesis relates.
2. A person not meeting the requirements specified in section 1 may also act as a supervisor if they are an employee of a foreign university or research institution, provided that the body referred to in § 27 section 1 recognizes that the person has significant achievements in the scientific area to which the doctoral thesis relates.
3. Without a justified reason, an academic teacher may not refuse to act as a supervisor.
4. The scientific supervision provided by the supervisor is assessed concurrently with the mid-term assessment of doctoral students. Detailed rules for conducting the assessment of scientific supervision are defined in the Regulations for assessing the scientific supervision of doctoral students of the Doctoral School, constituting Appendix No. 2 to the Regulations.

§ 30

A person may not act as a supervisor if, in the last 5 years:

1. they supervised 4 doctoral students who were removed from the list of doctoral students due to a negative mid-term assessment,
or
2. they supervised the preparation of a doctoral thesis by at least 2 candidates for the doctoral degree whose theses did not receive positive reviews, preventing admission to the defense.

§ 31

1. The scope of implementation of the individual research plan referred to in § 33 may provide grounds for appointing an assistant supervisor.
2. The appointment of an assistant supervisor is made upon the doctoral student's request submitted to the Doctoral School office, within 30 days after obtaining a positive evaluation from the assessment committee referred to in § 33 section 9.
3. The request includes an indication of the academic teacher who, in the doctoral student's opinion, may act as the assistant supervisor, as well as a positive opinion from the supervisor.
4. Following formal verification, the Director of the Doctoral School forwards the request for appointment of the assistant supervisor without delay to the chair

of the body referred to in § 27 section 1. The assistant supervisor should be appointed within 1 month from the date of submission of the request.

§ 32

1. An assistant supervisor may be a person holding at least a doctoral degree, and the requirements specified in § 29 section 3 apply to their appointment.
2. An assistant supervisor shall not be appointed in the case of an interdisciplinary doctoral thesis as referred to in § 28 section 1.

Individual Research Plan

§ 33

1. The doctoral student, in consultation with the supervisor or supervisors, prepares an individual research plan, which includes in particular:
 1. the schedule and scope of the research to be conducted;
 2. the schedule for preparation and the deadline for submission of the doctoral thesis.
2. The research topic carried out as part of the individual research plan shall clearly relate to the research topic based on which the doctoral student was admitted to the Doctoral School.
3. The doctoral student submits the individual research plan in electronic and paper form to the Doctoral School office at least 1 month before the end of the first year of education.
4. The individual research plan shall be presented by the doctoral student to the assessment committee within 12 months from the date of commencement of education.
5. The University body referred to in § 27 section 1 appoints the assessment committee upon request of the Director of the Doctoral School submitted to the chair of this body. The committee shall be appointed at least 3 months before the deadline referred to in section 3.
6. The assessment committee deliberates in a 5-member composition, including at least 2 persons who are members of the body referred to in section 5.
7. In the case of an interdisciplinary thesis as referred to in § 28 section 1, the assessment committee deliberates in a 7-member composition, including:
 1. the Director of the Doctoral School as chair;
 2. 3 persons selected by the competent body, including at least 2 persons who are members of the body referred to in section 5.
8. The supervisor or supervisors participate in the meeting of the assessment committee as observers.
9. The requirements specified in § 29 apply to the selection of members of the assessment committee.
10. The assessment committee makes decisions regarding the evaluation of the individual research plan by a simple majority of votes. The evaluation may be positive, in which case the plan is implemented without changes, or the committee may indicate comments on the individual research plan that must be taken into account by the doctoral student when revising the plan.
11. A protocol of the assessment meeting is prepared and signed by all members of the committee.

12. In the case of comments from committee members, the revised plan together with explanations and the opinion of the supervisor or supervisors shall be submitted by the doctoral student to the committee within 1 month of receiving the assessment protocol. Failure to revise the plan or submit explanations within the above deadline constitutes grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.
13. The assessment committee informs the Director of the Doctoral School of the results of the evaluation of the individual research plan, and the Director communicates this information to the relevant discipline coordinators and to the doctoral students.

§ 34

1. The individual research plan may be modified after the mid-term evaluation referred to in § 35. The modification is carried out by the doctoral student in consultation with the supervisor or supervisors, or with the supervisor and the assistant supervisor. The modification may concern changes in the scope and timeline of the research conducted, as well as changes in the schedule for the completion of the doctoral thesis.
2. In justified cases, changes to the scope and timeline of the research included in the individual research plan may be made before the mid-term evaluation is conducted.
3. Each modification of the individual research plan requires a positive opinion from the chair of the Committee referred to in § 33. The chair of the Committee may seek the Committee's opinion. The Director shall immediately inform the doctoral student of the approval of the modification of the individual research plan.

Mid-term Evaluation and Progress Assessment § 35

1. The implementation of the individual research plan is subject to mid-term evaluation, conducted by the assessment committee appointed by the body designated in the Statute, referred to in § 27 section 1.
2. The mid-term evaluation is conducted from the beginning of September of the 4th semester of education and must be completed within 3 subsequent months.
3. For the purpose of the mid-term evaluation, the doctoral student prepares a report on the implementation of the individual research plan, which is submitted in electronic and paper form to the Doctoral School office by 10 September of the 4th semester of education in which the evaluation is conducted. The report shall be accompanied by the opinion of the supervisor or supervisors.
4. The report may include justification for necessary modifications to the individual research plan, including changes to the schedule for completion of the doctoral thesis.
5. Following formal verification of the report, the Director of the Doctoral School submits a request for the mid-term evaluation to the chair of the body referred to in section 1, within 14 days of receiving the report.

6. Failure by the doctoral student to submit the report within the deadline referred to in section 3 may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 36

1. The committee referred to in § 35 section 1 consists of 3 persons, including at least 1 employed outside the University, holding a postdoctoral degree (doktor habilitowany) or the title of professor in the discipline in which the doctoral dissertation is being prepared, or an employee of a foreign university or research institution with significant achievements in the scientific area to which the doctoral dissertation relates.
2. The supervisor or assistant supervisor may not be a member of the committee.
3. The detailed rules for conducting the mid-term evaluation are specified in the Regulations of the Mid-Term Evaluation of Doctoral Students, constituting Annex No. 3 to the Regulations.
4. The mid-term evaluation ends with a positive or negative result, and the result together with the justification is public.
5. The committee prepares minutes of the meeting, which are signed by all its members.
6. Information on the mid-term evaluation is entered into the integrated POL-on system.
7. A negative evaluation constitutes grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

§ 37

1. After conducting the mid-term evaluation referred to in § 36 section 3, progress in the implementation of the individual research plan is evaluated every semester, i.e. progress:
 1. in the implementation of research of the individual research plan;
 2. in the preparation of the doctoral dissertation, subject to section 3.
2. The progress evaluation is carried out based on a report prepared by the doctoral student. The guidelines and rules for conducting the evaluation are set by the Doctoral School Council.
3. The detailed rules for the progress evaluation are specified in the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and Preparation of the Doctoral Dissertation, constituting Annex No. 4 to the Regulations.
4. The evaluation of the implementation of the individual research plan and progress in the preparation of the doctoral dissertation is carried out within 1 year after the mid-term evaluation, i.e. in September (6th semester), and subsequently in February (7th semester) and June (8th semester).
5. The reports referred to in section 2, approved by the supervisor or supervisors, are submitted by the doctoral student in electronic and paper form to the Doctoral School office at least 14 days before the end of the relevant semester.
6. The progress evaluation is carried out by the Committee for the Evaluation of the Individual Research Plan.

7. The progress evaluation may be positive or negative. A negative evaluation may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.

Change of supervisor § 38

1. In justified cases, particularly those preventing the implementation of the individual research plan, including preparation of the doctoral dissertation, the doctoral student may submit a request to the Director of the Doctoral School to change the supervisor or assistant supervisor.
2. In the request, the doctoral student shall indicate a candidate for the new supervisor or assistant supervisor for the further stage of education at the Doctoral School, taking into account § 29.
3. In cases preventing the continuation of scientific supervision, the supervisor or assistant supervisor may resign from their function. In the request submitted to the Director of the Doctoral School, the supervisor or assistant supervisor shall indicate justified reasons for resignation as well as an academic teacher with sufficient achievements to take over scientific supervision.
4. After reviewing the case, the Director of the Doctoral School promptly submits the request to change the supervisor or assistant supervisor to the chairperson of the body referred to in § 27 section 1.
5. The supervisor or assistant supervisor should be appointed within 1 month from the date of submitting the request referred to in sections 1 or 3.

Suspension, extension, and resignation from education § 39

1. Suspension of education, referred to in § 17 section 3, constitutes grounds for changing the plan of classes carried out by the doctoral student and changing the deadline for submitting required reports and applications, as well as modifying the schedule for implementing the individual research plan, including the schedules of research and preparation of the doctoral dissertation.
2. The basis for changing the plan of classes carried out by the doctoral student may also be:
 1. specific needs of the doctoral student:
 - resulting from the doctoral student's or a family member's health condition and duly documented fortuitous circumstances, including long-term illness of the doctoral student or a family member, documented with the appropriate medical certificate,
 - resulting from fortuitous circumstances;
 2. completing a research internship, including abroad, lasting longer than 3 months.
3. In justified cases, including those resulting from health conditions or fortuitous circumstances, the doctoral student may also request a change in the scope of professional practice, carried out in the form of teaching or participating in teaching.
4. At the request of the doctoral student, the changes referred to in sections 1–3 are made by the Director of the Doctoral School after obtaining the opinion of:

1. for classes referred to in sections 1 and 2 – the supervisor or supervisors;
2. for classes referred to in section 3 – the head of the unit in which the doctoral student conducts research.
An opinion is not required regarding changes related to the schedule of compulsory classes.
5. The doctoral student is obliged to submit to the Doctoral School office the request referred to in section 4, together with justification, no later than 14 days before the end of the semester.
6. Changes to the schedule of implementation of the individual research plan, including the schedule for preparation of the doctoral dissertation, are made in the manner referred to in § 34.

§ 40

1. The changes referred to in § 39 sections 1 and 2 constitute grounds for extending education at the Doctoral School and changing the deadline for submitting the doctoral dissertation, subject to section 4.
2. The justified necessity to repeat research or conduct additional research, as well as the change of supervisor referred to in § 38, may also constitute grounds for extending education at the Doctoral School.
3. At the request of the doctoral student, the extension of education is granted by the Director of the Doctoral School after consulting the opinion of the supervisor or supervisors. In this regard, the Director of the Doctoral School may request an opinion from the chairperson of the body referred to in § 27 section 1.
4. The deadline for submitting the doctoral dissertation may be extended by a maximum of 2 years.

§ 41

1. The doctoral student may resign from education at the Doctoral School.
2. Resignation from education is confirmed on the basis of a written statement of resignation submitted by the doctoral student, including a declaration of no claims to the results of the conducted research.
3. The doctoral student shall attach to the statement an opinion from the head of the unit in which the research was conducted, confirming correct settlement of obligations towards the unit.
4. Resignation from education constitutes grounds for removal of the doctoral student from the list of doctoral students.

Doctoral students with special needs, including doctoral students with disabilities, and medical examinations

§ 42

1. The University provides persons with special needs resulting from their health condition, including persons with disabilities, with conditions for full participation in University life and the academic community, including in education. These conditions include, in particular, the rights and forms of support referred to in section 2. The units of the University are responsible for

implementing the support. The coordination of support activities is carried out by the Office for Persons with Disabilities (BON).

2. A doctoral student with special needs resulting from their health condition, including a disability, if justified by their specific needs, has the right to the entitlements and services referred to in the support regulations, on the conditions specified therein, including:
 1. provision of accessibility within the teaching process through, among others:
 - provision of accessible forms, locations, conditions and appropriate organization, including individual classes or classes in an alternative form,
 - provision of accessibility of teaching materials,
 - permission to take personal notes from classes in an alternative form (including through recording or taking photos) and to use other devices,
 - in the case of enrollment for classes or groups based on first come, first served – priority enrollment for such classes or groups,
 - education in the form of an individual study program,
 2. provision of accessibility within the learning outcomes assessment process, including ensuring equivalence of form and objectivity of assessment through, among others:
 - provision of accessible forms, locations, conditions and appropriate organization,
 - assessment of learning outcomes at times that take into account the doctoral student's special needs,
 - course completion in an individual mode,
 - assessment of learning outcomes in sign languages,
 3. provision of accessibility within scientific activity:
 - provision of accessible forms of conducting scientific activity,
 - provision of accessibility of research materials,
 - provision of accessibility of research equipment and research software,
 - provision of support for participation in scientific conferences, etc.,
 4. elimination or limitation of harmful, onerous and hazardous factors for health occurring during education at the Doctoral School, including:
 - the right to request a referral for medical examinations,
 - the right to request the limitation or elimination of harmful, onerous or hazardous factors for health,
3. The Director of the Doctoral School, the head of the unit where the doctoral student conducts research, or another head of a University unit shall provide or support the implementation of the granted entitlements and services.
4. Requests from a doctoral student with special needs, including a disability, submitted to the Director of the Doctoral School, another head of a University unit, or the Rector, referring to their health condition – are considered in cooperation with BON.
5. Medical documentation, decisions, etc. are included in the BON documentation and are not kept in the doctoral student's personal file, except in situations indicated in the applicable regulations.

§ 43

1. The list of harmful, onerous and hazardous factors for health (hereinafter “harmful factors”) that occur during education in individual disciplines is

prepared and updated by the Occupational Health and Safety and Fire Protection Office and published on the BON website.

2. In disciplines where during education, including research, doctoral students are exposed to harmful factors, the condition for admitting the doctoral student to classes or research is submission of a medical certificate confirming no health contraindications to undertake education in the given discipline – subject to section 4.
3. Persons applying for admission via transfer from another doctoral school in the discipline referred to in section 2, and doctoral students before the date of the next medical examination indicated in the medical certificate – receive a referral for medical examinations.
4. The University strives to enable the widest possible group of persons to undertake and continue education at the Doctoral School, in particular by eliminating or reducing harmful factors in individual cases.
5. A person referred to in section 3 has the right to apply to the Director of the Doctoral School for the right to receive a referral for medical examination.
6. A person who presents a medical certificate confirming the existence of health contraindications to undertake education in the given discipline may exercise the right to request elimination or reduction of harmful factors. In the case of reduction of harmful factors, the person receives a referral for medical examination concerning only those limited harmful factors.
7. If elimination or reduction of harmful factors in a given discipline is not possible or if despite their reduction, the person presents a medical certificate confirming health contraindications to education in the Doctoral School in this discipline, the University shall propose a change of research profile, subject to other formal requirements.

Completion of education at the Doctoral School

§ 44

1. The doctoral student completes education by submitting the doctoral dissertation to the Doctoral School's secretariat.
2. The doctoral dissertation must meet the requirements specified in Article 187 of the Act.
3. The doctoral student prepares the doctoral dissertation in Polish or English.
4. The doctoral student shall attach to a dissertation prepared in Polish a summary in English, and to a dissertation prepared in English a summary in Polish.

§ 45

1. The individual research plan specifies the deadline for submitting the doctoral dissertation.
2. The doctoral student shall attach to the submitted dissertation a supervisor's or supervisors' opinion confirming that the submitted dissertation meets the formal and substantive requirements and complies with the individual research plan.
3. If the dissertation is a written work, it shall be checked using the anti-plagiarism system (JSA). The check is carried out by the supervisor, who attaches the report to the opinion referred to in section 2.

4. After formal verification of the submitted dissertation, the Director of the Doctoral School issues a certificate of completion of the Doctoral School.

§ 46

1. If the doctoral student intends to initiate proceedings for the award of the doctoral degree before the body referred to in § 27 section 1, they shall attach to the submitted dissertation:
 1. a request to initiate proceedings for the award of the doctoral degree, addressed to the chairperson of the body referred to in § 27 section 1;
 2. documents confirming fulfilment of the requirements necessary to award the doctoral degree, as specified in the Act and the relevant resolution of the Senate.
2. After formal verification of the submitted dissertation, the Director of the Doctoral School shall immediately forward the request to initiate proceedings for the award of the doctoral degree to the chairperson of the body referred to in § 27 section 1, attaching the dissertation and the positive opinion of the supervisor or supervisors.

§ 47

1. In the case of a negative opinion issued by the supervisor or supervisors, as referred to in § 42a section 2, the doctoral student shall supplement or revise the dissertation in accordance with the recommendations set out in the opinion, within 3 months of receiving the negative opinion.
2. After supplementing or revising the dissertation, the supervisor or supervisors issue a new opinion.
3. In the case of another negative opinion, the doctoral student has the right to appeal to the evaluation committee referred to in § 35 section 5. The committee's opinion is final.

§ 48

The procedure for awarding the doctoral degree is regulated by separate provisions. At the University, the procedure is conducted by the body referred to in § 27 section

1.

Removal from the list

§ 49

1. The doctoral student shall be removed from the list of doctoral students in the case of:
 1. a negative result of the mid-term evaluation referred to in § 36 section 5;
 2. failure to submit the doctoral dissertation within the deadline specified in the individual research plan;
 3. resignation from education;
 4. failure to commence education;
 5. violation of the prohibition on being a doctoral student at more than one doctoral school, or violation of the employment prohibition under the conditions specified in § 17 section 4;
 6. sanction of disciplinary expulsion from the Doctoral School.

2. In proceedings concerning the removal of a doctoral student from the list of doctoral students in the cases referred to in section 1 point 5), the doctoral student is summoned to submit, within a period of no less than 30 days, a resignation from education at another doctoral school or resignation from employment as an academic teacher or researcher.
3. The doctoral student may be removed from the list of doctoral students in the case of failure to fulfil the obligations related to the implementation of the education programme, based on the lack of semester completion of courses referred to in § 26 section 6.
4. The doctoral student may also be removed from the list of doctoral students in the case of:
 1. unsatisfactory progress in preparing the doctoral dissertation;
 2. failure to fulfil the obligations related to the implementation of the individual research plan;
– based on the progress evaluation referred to in § 37 section 5.
5. Removal from the list of doctoral students is carried out by administrative decision. The student has the right to request reconsideration of the case.

Education documentation

§ 50

1. The documentation of the doctoral student's education process at the Doctoral School is maintained using the University's IT system and recorded in the doctoral student's index.
2. The documentation referred to in section 1 is collected in the IT system and stored in the doctoral student's personal file, maintained by the Doctoral School's secretariat, from the moment the candidate applies for admission to the Doctoral School.
3. Data are entered into the IT system on an ongoing basis. The Director of the Doctoral School is responsible for the completeness, correctness and timeliness of the data entered into the IT system.
4. The chairperson of the body referred to in § 27 section 1 is responsible for timely submission to the Director of the Doctoral School of documentation related to the procedures conducted by that body.
5. The Doctoral School's secretariat is obliged to assign the doctoral student an album number from the central pool, enter the appropriate Doctoral School education programme code, order the printing of the Electronic Doctoral Student ID card and migrate data from USOS to the POL-on system.

§ 51

1. After a candidate is admitted to the Doctoral School, the Doctoral School secretariat enters the data into the university's IT system and subsequently, without delay, into the POL-on system. These data include, among others:
 1. first name(s) and surname;
 2. PESEL number, or in its absence – the number of an identity document and the name of the country that issued it;
 3. electronic researcher identifier compliant with international standards, which the doctoral student admitted to the Doctoral School must apply for within 14 days from the start of education;

4. citizenship, and in the case of foreigners:
 - name of the country of birth,
 - information on admission to the Doctoral School and participation in education therein,
 - information on possession of a Polish Charter (Karta Polaka);
 5. year of birth;
 6. sex;
 7. information on the amount of the doctoral scholarship;
 8. date of commencement of education at the Doctoral School, date and duration of suspension, date of completion of education at the Doctoral School or date of removal from the list of doctoral students.
2. In the case of consent to extend the deadline for submitting the doctoral dissertation, this information is entered into the university's IT system and the POL-on system.
 3. The detailed list of documents collected in the doctoral student's file referred to in § 47 section 2 is specified in Appendix No. 1 to the Regulations.

Appeals and final provisions

§ 52

1. The doctoral student has the right to appeal to the Rector against all decisions issued by the Director of the Doctoral School. The Rector may uphold the Director's decision or repeal it and return the case to the Director for reconsideration.
2. In matters concerning the course of education resolved in the form of administrative decisions and not regulated by the Regulations, the provisions of the Code of Administrative Procedure shall apply accordingly, unless the Act provides otherwise. An application for reconsideration of the case may be submitted against administrative decisions issued by the Rector.

§ 53

In cases justified by extraordinary circumstances that threaten the life or health of doctoral students, the minister responsible for higher education and science may, by regulation, temporarily limit or temporarily suspend the education of doctoral students.

Appendix No. 1

to the Regulations of the Doctoral School

Method of documenting the course of education in the doctoral student's personal file

I. Documentation of the doctoral student related to the course of education

1. The doctoral student's personal file, maintained and stored at the Doctoral School secretariat, contains:
 1. documents required from the candidate of the Doctoral School;
 2. qualifying procedure documents constituting the basis for entry onto the list of doctoral students;
 3. confirmation of taking the oath;
 4. documents confirming the course of education at the Doctoral School, including, among others:
 - a. credit protocols, internship reports,
 - b. documents related to scholarships,
 - c. documents related to completion of education at the Doctoral School,
 5. additional documentation resulting from the agreement or arrangement referred to in § 12 section 1;
 6. resolutions adopted by the University body competent to conduct the doctoral proceedings, related to:
 - a. appointment of the supervisor or supervisors, as well as the auxiliary supervisor;
 - b. change of supervisor or supervisors, as well as auxiliary supervisor;
 - c. appointment of reviewers;
 - d. acceptance of the doctoral dissertation and admission to its public defence;
 - e. acceptance of the public defence of the doctoral dissertation;
 - f. granting or not granting the doctoral degree;
 7. reviews of the doctoral dissertation;
 8. awards/distinctions of the doctoral dissertation;
 9. if the doctoral dissertation is a written work – a copy of the doctoral dissertation together with a summary: in English for a dissertation prepared in Polish, and in Polish for a dissertation prepared in English;
 10. if the doctoral dissertation is not a written work, it should be accompanied by a description in Polish and English;
 11. a diploma transcript for the file, together with a photocopy of the additional diploma transcript translated into another language, and confirmation of receipt of the diploma, transcripts and any duplicates;
 12. if the doctoral dissertation is a written work, the report from the Uniform Anti-Plagiarism System;
 13. notification of granting or not granting the doctoral degree.
2. After completion of the full education cycle of the doctoral student, the file is stored for a period of 1 year and is subsequently transferred to the University archive.

**Regulations for the Evaluation of Scientific Supervision
of Doctoral Students of the Doctoral School**

§ 1

1. Scientific supervision is evaluated concurrently with the mid-term evaluation of doctoral students, which is carried out in accordance with Article 202(2) of the Act of 20 July 2018 – Law on Higher Education and Science.
2. The evaluation of scientific supervision is conducted on the basis of the Scientific Supervision Evaluation Report, the template of which is specified in Annex No. 1 to these Regulations, as well as on the basis of a discussion held by the Committee referred to in § 2(1) with the supervisor(s) and the doctoral student.
3. The Evaluation Report shall be submitted to the Doctoral School Office no later than by the end of the first week of October of the year in which the mid-term evaluation of the doctoral student takes place.
4. The discussion with the supervisor may be conducted remotely.
5. The evaluation of scientific supervision ends with either a positive or negative result. The result of the evaluation, together with its justification, is public.

§ 2

1. The evaluation of scientific supervision is carried out by a three-member Committee for the Evaluation of Scientific Supervision appointed by the relevant discipline council, composed of employees of the Hugo Kołłątaj University of Agriculture in Kraków. The Committee shall include two persons who participate in the work of the Committee for the mid-term evaluation of the doctoral student. The discipline council shall appoint the Committee within one month of receiving the request from the Director of the Doctoral School.
2. The Committee proposes the date of the discussion with the supervisor.
3. The Committee prepares the Scientific Supervision Evaluation Protocol, the template of which is specified in Annex No. 2 to these Regulations.
4. In the case of a negative evaluation of scientific supervision, combined with a positive mid-term evaluation of the doctoral student's Individual Research Plan (IRP), the relevant discipline council shall change the supervisor; the request for such a change is submitted by the Director of the Doctoral School.
5. The members of the Committee submit the final evaluation to the Director of the Doctoral School within 3 days of the last meeting. The Director of the Doctoral School presents the final evaluation to the evaluated supervisor, the coordinator, and the discipline council. The supervisor signs the Scientific Supervision Evaluation Protocol.

§ 3

1. In justified cases, the Director of the Doctoral School may change the deadlines specified in these Regulations by issuing an announcement.
2. Matters relating to the work of the Committee that are not covered by these Regulations shall be decided by the Director of the Doctoral School.

Annex No. 1

to the Regulations for the Evaluation of Scientific Supervision

SCIENTIFIC SUPERVISION EVALUATION REPORT

(separate file)

Annex No. 2 to the Regulations for the Evaluation of Scientific Supervision

SCIENTIFIC SUPERVISION EVALUATION PROTOCOL

(separate file)

Regulations of the Mid-term Evaluation of Doctoral Students

§ 1

1. In accordance with Article 202(2) of the Act of 20 July 2018 – Law on Higher Education and Science, the implementation of the Individual Research Plan (hereinafter: IRP) is subject to a mid-term evaluation halfway through the period of education specified in the curriculum.
2. The mid-term evaluation is carried out from the beginning of September of the 4th semester of education and must be completed within the following 3 months.
3. The mid-term evaluation of a doctoral student is based on:
 1. the report on the implementation of the IRP submitted by the student, the template of which is specified in Annex No. 1 to these Regulations (stage 1);
 2. the interview with the doctoral student (stage 2).
4. The report on the implementation of the IRP, written in Polish or English and signed by the doctoral student and the supervisor, shall be submitted to the Doctoral School Office no later than by the end of the first week of October of the year in which the mid-term evaluation takes place.
5. The interview with the doctoral student is conducted in Polish or English and may be held remotely.
6. The report on the implementation of the IRP must include a copy of the IRP and documents confirming the doctoral student's activities resulting from the IRP, including the first pages of papers published during the doctoral programme, decisions of institutions awarding grants, confirmation from the principal investigator of a research project, patent application numbers, and confirmation of participation in a conference including the type of presentation and the title of the presented work.
7. The mid-term evaluation ends with a positive or negative result. The result, together with its justification, is public.

§ 2

1. The mid-term evaluation is conducted by the Mid-term Evaluation Committee appointed by the relevant discipline council upon the request of the Director of the Doctoral School. The discipline council appoints the Committee within one month of receiving the request.
2. The Mid-term Evaluation Committee is composed of 3 persons holding the degree of doktor habilitowany (DSc) or the title of professor in the discipline in which the doctoral dissertation is being prepared, including at least one person employed outside the University or an employee of a foreign university or research institution with significant achievements in the field relevant to the doctoral dissertation.
3. Members of the Committee must be active researchers, meaning that within the last six years they have published at least four works (journal articles, conference papers, or books within a book series) indexed in Scopus, with at least two of these works published in journals assigned to the discipline

according to the ministerial list and having a score of at least 30 points according to the MNiSW list (if published before 2018) or at least 100 points according to the MEiN list (if published after 2018). For the discipline of economics and finance, these thresholds are 25 and 70 points, respectively.

4. One member of the Committee may be a researcher from abroad. Participation of such a member takes place exclusively remotely.
5. The supervisor and assistant supervisor cannot be members of the Committee.
6. The discipline council appoints the chair, the secretary, and a member of the Committee. In justified cases, the Director of the Doctoral School may request that the discipline council dismiss a member of the Committee and appoint a replacement.
7. A Committee member employed outside the institution running the Doctoral School is entitled to remuneration equal to 20% of a professor's salary. The remuneration is covered from the research subsidy allocated to the relevant discipline.
8. The chair of the Committee convenes meetings by setting the dates and venues. All necessary information is provided to the Doctoral School Office, which informs the doctoral student and the supervisor about the dates and locations of the Committee meetings.
9. The mid-term evaluation report is reviewed by the Committee within 30 days of delivering the report to its members.
10. The Committee proposes the date of the interview with the doctoral student.
11. Attendance of the doctoral student at the Committee meeting during which the interview is held is mandatory. Acceptable reasons for absence include a medical certificate presented on the day of the evaluation (or, in exceptional cases, within no more than 7 days after the scheduled meeting) or an important unforeseen event. In such cases, a new evaluation date is set. Unexcused absence results in a negative evaluation.
12. During the interview, the doctoral student presents the status of IRP implementation in a 20-minute presentation. Each member of the Committee asks one question related to the presentation or the implementation of the IRP. The questions are recorded, and the template of the protocol is provided in Annex No. 2 to these Regulations.
13. After completing both stages of the evaluation, the Committee agrees on the final result of the mid-term evaluation and prepares a protocol (Annex No. 2). The Committee provides the result as positive or negative. The evaluation is positive if the majority of the Committee members issue a positive opinion.
14. A positive mid-term evaluation must be based on the fulfilment of the following conditions:
 1. the doctoral student has completed the tasks specified in the IRP for completion by the end of the 4th semester;
 2. the doctoral student demonstrates a delay in IRP implementation not exceeding 30%, and it is still possible to complete the IRP within the timeframe specified in the Regulations of the Doctoral School, with the doctoral student's scientific and publication activity clearly indicating their engagement in the research tasks.
15. A negative mid-term evaluation is issued when the Committee finds no progress in the implementation of the IRP.
16. Both positive and negative evaluations must be justified.

17. The Committee deliberates on the result in a closed session.
18. A negative mid-term evaluation results in removal from the list of doctoral students.
19. The Committee members present the final evaluation to the Director of the Doctoral School within 3 days of the last meeting. The Director provides the final evaluation to the doctoral student, the supervisor, the coordinator, and the discipline council. The doctoral student and the supervisor sign the final evaluation protocol on the date of receipt.
20. The doctoral student may appeal a negative evaluation to the Director of the Doctoral School within 7 days of the publication of the results.
21. At the request of the Director of the Doctoral School, the Rector appoints a three-member Appeals Committee, including at least two persons not employed at the University and at least one person holding the degree of doktor habilitowany or the title of professor in the relevant discipline.
22. The Appeals Committee, after reviewing all documentation, conducts an interview with the doctoral student in order to make a final decision. This decision must be made no later than one month from the date the doctoral student submits the appeal. The decision of the Appeals Committee is final.

§ 3

1. In justified cases, the Director of the Doctoral School may change the deadlines specified in these Regulations by issuing an announcement.
2. Matters concerning the Committee's activities that are not covered by these Regulations shall be decided by the Director of the Doctoral School.

Annex No. 1 to the Regulations of the Mid-term Evaluation

MID-TERM EVALUATION REPORT

(separate file)

Annex No. 2 to the Regulations of the Mid-term Evaluation

MID-TERM EVALUATION PROTOCOL OF THE DOCTORAL STUDENT

(separate file)

Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan of Doctoral Students and the Status of Preparation of the Doctoral Dissertation

1. In accordance with § 37 of the Regulations of the Doctoral School of the Hugo Kołłątaj University of Agriculture in Kraków, after the completion of the mid-term evaluation, the implementation of the Individual Research Plan (hereinafter: IRP) and the status of preparation of the doctoral dissertation are subject to evaluation.
2. The evaluation is carried out three times: in September (6th semester), February (7th semester), and June (8th semester).
3. The evaluation of the doctoral student's progress is based on a submitted report presenting the progress in the implementation of the Individual Research Plan and the status of preparation of the doctoral dissertation, hereinafter referred to as the Report. The template of the Report is specified in Annex No. 1 to these Regulations. The Report should be reviewed by the supervisor or supervisors of the doctoral dissertation.
4. The Report, prepared in Polish or English and signed by the doctoral student and the supervisor or supervisors, shall be submitted to the Doctoral School Office no later than by the end of the month preceding the evaluation date indicated in point 2.
5. The evaluation of progress in the implementation of the Individual Research Plan and the status of preparation of the doctoral dissertation is carried out by the Committee for the Evaluation of the Individual Research Plan.
6. The Report must include documentation from the mid-term evaluation (the doctoral student's report and the evaluation protocol), a copy of the IRP, the report from the previous evaluation, as well as documents confirming the doctoral student's activities resulting from the IRP, including: the first pages of works published since the previous evaluation, decisions from institutions granting research funding, confirmation from the principal investigator of a research project, proof of submission of a grant application, patent application number, confirmation of participation in a conference containing the type of presentation and the title of the presented work, and documentation of the completion of a national or international research internship.
7. The Report is evaluated by the Committee. The Chair of the Committee convenes its meetings, setting the dates and venues.
8. A positive evaluation is based on the fulfilment of the following conditions:
 1. the doctoral student has completed the tasks specified in the IRP for completion by the end of the relevant semester;
 2. the doctoral student demonstrates a delay in completing the IRP, but their scientific and publication activity clearly indicates their engagement in the research tasks.
9. The Committee determines the final evaluation result and prepares a protocol, the template of which is included in Annex No. 2 to these Regulations. The Committee issues the result as either positive or negative. The evaluation result is positive if the majority of Committee members issue a positive opinion.

10. A negative evaluation may constitute grounds for initiating proceedings to remove the doctoral student from the list of doctoral students.
11. The Chair of the Committee submits the final evaluation to the Director of the Doctoral School within 7 days of the last meeting. The Director of the Doctoral School provides the final evaluation to the doctoral student and the supervisor or supervisors. The evaluation protocol is forwarded to the chair of the relevant discipline council.
12. The doctoral student has the right to appeal the result of the evaluation within 30 days from the date of receiving the evaluation.
13. At the request of the Director of the Doctoral School, the Rector appoints a three-member Appeals Committee. The Appeals Committee shall issue a decision no later than one month from the date the doctoral student submits the appeal. The decision of the Appeals Committee is final.

Annex No. 1 to the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and the Status of Preparation of the Doctoral Dissertation

REPORT ON THE EVALUATION OF PROGRESS IN THE IMPLEMENTATION OF THE INDIVIDUAL RESEARCH PLAN AND THE STATUS OF PREPARATION OF THE DOCTORAL DISSERTATION

(separate file)

Annex No. 2 to the Regulations for the Evaluation of Progress in the Implementation of the Individual Research Plan and the Status of Preparation of the Doctoral Dissertation

PROTOCOL OF THE EVALUATION OF PROGRESS IN THE IMPLEMENTATION OF THE INDIVIDUAL RESEARCH PLAN AND THE STATUS OF PREPARATION OF THE DOCTORAL DISSERTATION

(separate file)

**The Rules of the mid-term evaluation of PhD students
of the Doctoral School of the University of Agriculture in Krakow**

§ 1

1. According to the Article 202 s.2 of the Act of 20 July 2018 – Law of Higher Education and Science, the completion of an individual research plan (IPB) is subjected to a mid-term evaluation in the middle of the study period specified in the education program, i.e. after completing term 4.
2. The mid-term evaluation has to be carried out within 3 consecutive months.
3. The mid-term evaluation of the PhD student is conducted considering:
 - 1) a submitted report on the implementation of the IPB, the form of which is included in the appendix no.1 of the rules (stage I);
 - 2) an interview with the PhD student (stage II).
4. The report of on the implementation of IPB written in Polish or English, signed by the PhD student and supervisor, is submitted to the office of the Doctoral School by the end of the first week of October of the year in which the mid-term evaluation takes place.
5. The interview with the PhD student is conducted in Polish or English and can be conducted online.
6. The copy of the IPB should be attached to the IPB report as well as the documents confirming the PhD student's activity resulting from IPB, including the first pages of scientific publications published during the Doctoral School education, decisions to award a grant, the confirmation of the leader of the research project, the patent application number, the confirmation of taking part in a conference including the type of performance and the title of the presented work.
7. The mid-term evaluation is completed by a negative or positive score. The score and its justification are publicly transparent.

§ 2

1. Mid-term evaluation is conducted by the Mid-Term Committee appointed by the right council of the discipline upon the request of the Director of the Doctoral School. The council of the discipline appoints the Mid-Term Committee in one month since receiving the application.

2. The Committee consists of 3 members with the degree of habilitated doctor or professor at the discipline in which the doctoral thesis is prepared, including one employed outside of the University.
3. Members of the Committee should be active researchers, which means that during previous 6 years they have published at least 4 scientific publications (articles in journals, conference materials, books as part of book series) included in the Scopus base, at least two of them had to be published in the journal in the discipline according to the ministerial list and had to score at least 30 points according to the MNiSW list, when published by 2018 or 100 points according to the list of the MEiN, when published after 2018. In the case of economy and finances these thresholds are 25 or 70 points, respectively.
4. One of the members of the Committee can be a researcher from abroad. The participation of that person in the work of the Committee is only online.
5. A supervisor and assistant supervisor cannot be the members of the Committee.
6. The council of the discipline chooses the chairman, the secretary and the member of the Committee. In justified cases the Director of the Doctoral School applies to the council of discipline for dismissal of a Committee member and for choosing another member on her/his place.
7. A member of the Committee, employed outside of the University is offered a salary of 20% of the professor's salary. The costs are paid from the scientific subsidy transferred to the right discipline.
8. The chairman of the Committee convenes the meeting by setting the dates and places of meetings. All the necessary information is forwarded to the secretariat of the Doctoral School which gives the PhD student and the supervisor the information about the dates and places of committee appointments.
9. The mid-term evaluation report is assessed for up to 30 days since being given to the members of the Committee.
10. The Committee suggests the date of the interview with the PhD student.
11. The presence of the PhD student at the meeting of the Committee for interview is obligatory. The excuse of the absence can be a sick leave presented on the assessment day (or in particular cases within 7 days at the latest since the date of the committee meeting) or an important random event. In that case the PhD student is given a new date of interview. Unexcused absence will lead to a negative score of the mid-term evaluation.
12. During the interview the PhD student presents in the 20 minute presentation the implementation status of IPB. Every member of the Committee asks the PhD student one

- question regarding the content of the presentation or the implementation of IPB. The questions are documented and the protocol form is included in the appendix no.2 of the rules.
13. After completing both stages of the assessment (I and II) the Committee agrees the final result (score) of the mid-term evaluation of the PhD student, making a protocol (appendix 2). Committee presents the result of the evaluation as positive or negative. The result of the mid-term evaluation is positive if most members of the Committee give the positive assessment.
14. To receive a positive mid-term evaluation, the following conditions have to be fulfilled:
- 1) PhD student has completed the tasks given to be implemented in the IPB by the end of the 4th term of education.
 - 2) PhD student shows a delay in the IPB implementation but not over 30%, however, there is a possibility of the IPB implementation within the time specified in the rules of the Doctoral School and the previous research and publication activity of the PhD student clearly indicate her/his right involvement in the implementation of the research tasks.
15. The negative mid-term evaluation is given when the committee states no progress in the IPB implementation.
16. Both positive and negative assessments have to be justified.
17. The Committee deliberates over the result of the evaluation in the closed (secret) part of the meeting.
18. The negative result of the mid-term evaluation is tantamount to removal from the list of doctoral students.
19. The members of the Committee provide the Director of the Doctoral School with the final evaluation within 3 days since the last meeting. The Director of the Doctoral School presents the final grade to the doctoral student and the supervisor, who sign the evaluation protocol, and also presents it to the coordinator and the discipline council.
20. The PhD student can appeal against a negative mid-term evaluation to the Director of the Doctoral School within 7 days from the date of making the results of the evaluation available.
21. At the request of the Director of the Doctoral School the Rector appoints three-person Appeals Committee with at least 2 persons not employed in the University including at least 1 person with the title of habilitated doctor or professor in the research discipline of the doctoral thesis.
22. After checking all the documents the Appeals Committee conducts an interview with the PhD student in order to make the final decision. The decision has to be made not later than

1 month after the date of the appeal of the PhD student. The Appeal Committee decision is final.

§ 3

1. In justified cases the Director of the Doctoral School may change by the message the dates indicated in these rules.
2. The Director of the Doctoral School decides on the scope of the Committee's activity, which are not included in these rules.

In line with the original

DYREKTOR
SZKOŁY DOKTORSKIEJ
[Signature]
prof. dr hab. Zygmunt M. Kowalski



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Appendix no. 1
to the Rules of Doctoral School

REPORT OF MID-TERM EVALUATION

Krakow, date.....

Part A

NAME AND SURNAME
DATE OF BEGINNING OF EDUCATION AT THE DOCTORAL SCHOOL
DISCIPLINE
DEPARTMENT
SUPERVISOR
ASSISTANT SUPERVISOR
TITLE OF PHD DISSERTATION
HYPOTHESES AND SCIENTIFICS AIMS



UNIWERSYTET ROLNICZY

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Doctoral School

JUSTIFICATION FOR THE SELECTION OF THE RESEARCH PROBLEM

QUICK OVERVIEW OF THE CONCEPT OF THE DISSERTATION (*limit 200 words*)



PART B

RESEARCH TASKS

No.	Name of the research task to be carried out in the assessed period	Short description

RESEARCH METHODS

No.	Name of the research task to be carried out in the assessed period	Short description of research methodology

SCHEDULE FOR THE IMPLEMENTATION OF THE RESEARCH TASKS

No.	Name of the research task to be carried out in the assessed period	Start the task		Duration (months)	End before (1) or after a mid-term evaluation (2)
		Year of study	Term		

DESCRIPTION OF WORK PROGRESS OR RESULTS ACHIEVED (*limit 250 words*)



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Doctoral School

LIST OF LITERATURE: (*maximum 20 items*)



PART C

COMPLETED RESEARCH INTERNSHIPS

- domestic
- foreign

LIST OF SCIENTIFIC PUBLICATIONS PUBLISHED DURING the evaluation period (with bibliographic data)*

Publication	Bibliographic data
Author/co-author of the article published in the journal included in the list	
Author/co-author of the monography published by the publishing house in the list	
Author/co-author of the cases study published in the journal included in the list	
Author/co-author of the original article published in the journal not included in the list	
Author/co-author of the monography published by the publishing house not included in the list	

* the first pages of papers published during the education at the doctoral school should be attached to the report

LIST OF ACTIVE PARTICIPATION IN THE CONFERENCE*

Status	Conference details	Title and author	oral/poster



International conference (author/co-author of the oral presentation)			
International conference (author/co-author of the poster)			
National conference (author/co-author of the oral presentation)			
National conference (author/co-author of the poster)			

ACQUIRING FINANCIAL FUNDS FOR RESEARCH
- management/ contractor of the external research grant funded by NCN, NCBiR, FNP, Ministerial grants
(please provide the number, title and duration of the project)

- financed from the funds allocated to the implementation of research of PhD Students of the Doctoral School of University of Agriculture in Krakow (Rector's order No. 147/2020)

OBTAINING OR APPLICATION FOR A PATENT (*number of patent or application*)

Signature of PhD Student

Supervisor's opinion (*evaluation of progress in research*)



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Signature of Supervisor

OPINION OF THE HEAD OF DOCTORAL SCHOOL

Signature of Head of Doctoral School



MID-TERM EVALUATION OF THE PhD STUDENT PROTOCOL

Krakow, date

NAME AND SURNAME

DATE OF BEGINNING OF EDUCATION AT THE DOCTORAL SCHOOL

DISCIPLINE

DEPARTMENT

SUPERVISOR

ASSISTANT SUPERVISOR

TITLE OF PhD DISSERTATION



Mr/Mrs on (date)

Proceeded to the mid-term assessment at the Doctoral School in the discipline:

..... in the presence of
the Committee composed of:

Head of the Committee

Secretary of the Committee

Member of the Committee

Questions contained in the presentation and implementation of IPB (3 questions)

1.
2.
3.

I. Assessment of the IPB implementation status:

a) evaluation of the implementation of the work schedule included in IPB:

*positive/negative**

b) evaluation of the prepared and delivered presentation: *positive/negative**;

c) assessment of the responses to the questions of the Mid-Term Evaluation Committee:
*positive/negative**;

FINAL ASSESSMENT: *positive/negative**

II. Assessment of the research activity of the PhD student

The result of the research activity of the PhD Student: *positive/negative**

FINAL ASSESSMENT: *positive/negative**

** delete when unnecessary*

Summary:



Justification and conclusion of the Committee:

Head of the Committee

Secretary of the Committee

Member of the Committee



I acknowledge the above assessment:

Signature of PhD student

Signature of supervisor/supervisors

**The Rules of the evaluation of scientific care
of the Doctoral School of the University of Agriculture in Krakow**

§ 1

1. Scientific care is evaluated in parallel with the mid-term evaluation of PhD students and is made in accordance to Article 202 s.2 of the Act of 20 July 2018 – Law of Higher Education.
2. Evaluation of scientific care is made on the base of the report of the evaluation of scientific care - the form of which is specified in appendix 1 of the Rules, as well as the talks of the Committee members with the supervisor and the PhD student (§ 2 s.1).
3. The report of the evaluation is submitted to the office of the Doctoral School by the end of the first week of October of every year in which the mid-term evaluation of the PhD student is conducted.
4. The interview with the supervisor can be held online.
5. The evaluation of scientific care finishes with a positive or negative result. The result of the evaluation is public.

§ 2

1. The evaluation of scientific care is held by 3 person Committee for evaluation of scientific care, which is sets up by the appropriate discipline council. The Committee is consisted of the employees of the University of Agriculture in Krakow. There should be 2 persons participating in the mid-term evaluation Committee. The council of the discipline sets up the Committee by 1 month since receiving the application from the Director of the Doctoral School.
2. The Committee suggests the date of the interview with the supervisor.
3. The Committee draws up the protocol of the evaluation of scientific care, the form of which is in appendix 2 of the Rules.
4. In case of the negative assessment of the evaluation of scientific care while positive mid-term evaluation of IPB of the PhD student, the appropriate discipline council should change the supervisor and the Director of the Doctoral School applies for it. The discipline council sets up the Committee by 1 month since receiving the application from the Director.
5. The members of the Committee present the Director of the Doctoral School the final assessment by three days since the last meeting. The Director presents the final assessment to the supervisor, coordinator and council of discipline. The supervisor signs the protocol of evaluation of scientific care.

§ 3

1. In justified cases the Director of the Doctoral School may change the dates indicated in the Rules.
2. The Director of the Doctoral School decides about the scope of activities of the Committee that have not been included in the Rules.

In line with the original

DYREKTOR
SZKOŁY DOKTORSKIEJ
[Signature]
prof. dr hab. Zygmunt M. Kowalski



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Appendix no. 1
to the Rules for the evaluation of scientific care

REPORT OF EVALUATION OF SCIENTIFIC CARE

Krakow, date

Part A

NAME AND SURNAME OF THE SUPERVISOR

NAME AND SURNAME OF THE PhD STUDENT

DATE OF BEGINNING OF EDUCATION AT THE DOCTORAL SCHOOL

DISCIPLINE

DEPARTMENT

ASSISTANT SUPERVISOR



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Part B (filled by the supervisor) * *please circle the appropriate answer*

I. I assess the availability of the PhD student as*:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>

II. I assess the performance of duties by the PhD student as*:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>

signature of supervisor



Part C (filled by PhD student) * please circle the appropriate answer

I. I assess the availability of the supervisor as *:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
II. I assess the supervisor's help in the preparation of IPB as:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
III. I assess the supervisor's help in the implementation of IPB as:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
IV. I assess the supervisor's help in my research to date as:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
V. The supervisor's consultations help me in the current research in a way:				
1	2	3	4	5
<i>insufficient</i>	<i>sufficient</i>	<i>good</i>	<i>very good</i>	<i>perfect</i>
VI. Having previous experience in training as a part of a doctoral study what you would change?				
- nothing				
- supervisor				
- subject of individual research plan (IPB)				
- scope of work in certain periods				
- others (write below)				
.....				
.....				
.....				
.....				

signature of PhD student



UNIWERSYTET ROLNICZY

im. Hugona Kołłątaja w Krakowie

Doctoral School

Appendix no. 2
to the Rules for the evaluation of scientific care

EVALUATION OF SCIENTIFIC CARE PROTOCOL

Krakow, date

NAME AND SURNAME OF THE SUPERVISOR

NAME AND SURNAME OF THE PhD STUDENT

DATE OF BEGINNING OF EDUCATION AT THE DOCTORAL SCHOOL

DISCIPLINE

DEPARTMENT

ASSISTANT SUPERVISOR

TITLE OF PhD DISSERTATION



Head of the Committee

Secretary of the Committee

Member of the Committee

* delete unnecessary

[illegible]



Committee of evaluation of scientific care composed of:

Head of the Committee

Secretary of the Committee

Member of the Committee

I acknowledge the above assessment:

Signature of supervisor

Regulations for evaluating progress of the doctoral students in their Individual Research Plans and the status of their doctoral dissertation preparation

1. In accordance with §37 of the Doctoral School of University of Agriculture in Krakow, following the mid-term evaluation, the implementation of the Individual Research Plan (hereinafter referred to as the IRP) and the progress of the doctoral dissertation are assessed.
2. The assessment takes place three times; in spring (semester 6), in February (semester 7), and in June (semester 8).
3. The assessment of a PhD student's progress is based on a submitted report presenting progress in implementing the IRP and the status of the doctoral dissertation's preparation, hereinafter referred to as 'the report'. The Report template is set out in Annex No. 1 to these regulations. The report should be reviewed by the supervisor or supervisors of the doctoral dissertation.
4. The report, prepared in Polish or English and signed by the PhD student and the supervisor or supervisors, must be submitted to the office of the Doctoral School by the end of the month preceding the assessment date specified in point 2.
5. The assessment of the progress in implementing of the IRP and the status of the doctoral dissertation's preparation is conducted by the Committee for the IRP.
6. The report must be accompanied by documentation from the mid-term evaluation (the PhD student's report and evaluation protocol), copies of the IRP, the report from the last evaluation, and documents confirming the PhD student's activity resulting from the IRP, including: the first pages of works published since the previous evaluation, institution decisions on granting a grant, confirmation from the research project manager, confirmation of grant application submission, a patent application number, confirmation of conference, including the type of presentation and the title of the presented work, and documentation of the completion of a domestic or international research internship.

7. The report is evaluated by the Commission. The Chairman of the Commission convenes meetings, determining their dates and locations.
8. A positive assessment is granted under the following conditions :
 - 1) the PhD student has completed the tasks specified in the IRP by the end of the relevant semester.
 - 2) the PhD student has delays in implementing the IRP, but their scientific and publishing activity clearly demonstrate commitment to carrying out research tasks.
9. The Commission determines the final result by preparing a protocol, the template of which is attached as Annex 2 to these regulations. The Commission reports the assessment results as either positive or negative. The evaluation is considered positive if the majority of Commission members vote in favor of a positive opinion.
10. A negative evaluation may serve as the basis for initiating proceedings to remove the PhD student from the list of enrolled students.
11. The Chairman of the Commission presents the final evaluation to the Director of the Doctoral School within 7 days of the last meeting. The Director then presents the final grade to the PhD student and the supervisor or supervisors. The evaluation report is submitted to the relevant discipline council.
12. The PhD student has the right to appeal the assessment result within 30 days of receiving the evaluation.
13. At the request of the Director of the Doctoral School, the Rector appoints a three-person Appeal Committee. The Appeal Committee must make a decision no later than 1 month from the date of submission of the appeal by the PhD student. The decision of the Appeal Committee is final.



to the Regulations for assessing progress in the implementation of doctoral students' individual research plans
and the status of doctoral dissertation preparation

**PROTOCOL FOR ASSESSING THE PROGRESS IN
IMPLEMENTING THE INDIVIDUAL RESEARCH
PLAN OF THE DOCTORAL STUDENT AND THE
STATUS OF PREPARATION OF THE DOCTORAL
DISSERTATION**

Krakow, date

NAME AND SURNAME OF THE DOCTORAL STUDENT

START DATE OF DOCTORAL SCHOOL EDUCATION

DISCYPLINAE

DEPARTMENT

PROMOTOR LUB PROMOTORZY

ASSISTANT SUPERVISOR

TITLE OF PHD DISSERTATION



Mr/Mrs on the day
.....

started to assess the progress in the implementation of the doctoral student's individual research plan and the state of preparation of the doctoral dissertation at the Doctoral School in the discipline:..... before the Commission composed of:

Chairman of the Commission

Members of the Commission

.....

.....

.....

I. Assessment of the implementation status of the individual research plan

a) assessment of the implementation of the work schedule included in the individual research plan: positive/negative*;

II. Assessment of the state of preparation of the doctoral dissertation

Result of the assessment of the state of preparation of the doctoral dissertation: positive/negative;

Result of the assessment of the state of preparation of the doctoral dissertation:
positive/negative*

** delete what is unnecessary*



Uniwersytet Rolniczy im. Hugona Kołłątaja w Krakowie
Szkoła Doktorska

Justification and conclusions of the Commission:

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The committee for assessing the progress of the doctoral student's individual research plan and the state of preparation of the doctoral dissertation, composed of:

Chairman of the Commission

Members of the Commission

.....

.....

.....

I acknowledge the above assessment:

SIGNATURE OF THE DOCTORAL STUDENT

SIGNATURE OF THE PROMOTER/PROMOTERS



UNIwersYTET RolNICZY
im. Hugona Kołłątaja w Krakowie

Szanowny Pan
prof. dr hab. inż. Marcin Rapacz
Prorektor ds. Nauki
Uniwersytetu Rolniczego im. Hugona Kołłątaja w Krakowie

PEŁNOMOCNICTWO

Zgodnie z art. 23 ust. 1 i 2 pkt 1 i 2 Ustawy z dnia 20 lipca 2018 roku – Prawo o szkolnictwie wyższym i nauce (Dz.U. z 2024 r. poz. 1571 ze zm.) oraz § 14 ust. 1 i § 16 ust. 1 Statutu Uczelni z dnia 28 czerwca 2021 roku (tekst jednolity z dnia 20 grudnia 2023 roku) –
z dniem 1 grudnia 2025 roku – upoważniam Pana Profesora do:

podpisywania i składania w imieniu Uniwersytetu wszelkich dokumentów i raportów dotyczących działalności Szkoły Doktorskiej Uniwersytetu Rolniczego im. Hugona Kołłątaja w Krakowie.

Powierzone czynności powinny być dokonywane z zachowaniem przepisów Ustawy z dnia 20 lipca 2018 roku – Prawo o szkolnictwie wyższym i nauce, innymi przepisami powszechnie obowiązującymi, zwłaszcza dotyczącymi gospodarki finansowej i zamówień publicznych, oraz wewnętrznymi aktami prawnymi Uczelni.

Kraków, dnia 1 grudnia 2025 roku

Z upoważnienia Rektora
Prorektor ds. Współpracy


prof. dr hab. inż. Andrzej Sechman



UNIwersytet Rolniczy

im. Hugona Kołłątaja w Krakowie

Pan
prof. dr hab. inż. Zygmunt Kowalski
Wydział Hodowli i Biologii Zwierząt

Na podstawie art. 34 ust. 1 pkt 6 Ustawy z dnia 20 lipca 2018 r. – Prawo o szkolnictwie wyższym i nauce (t. j. Dz. U. z 2020 r. poz. 85 ze zm.), w związku z § 143 ust. 1- 3 Statutu Uczelni z dnia 14 czerwca 2019 r. – powołuję Pana Profesora na Dyrektora Szkoły Doktorskiej od dnia 1 września 2020 r. do dnia 31 sierpnia 2021 r.

Jako Dyrektor Szkoły Doktorskiej będzie Pan Profesor:

- 1) przewodniczył Radzie szkoły doktorskiej;
- 2) reprezentował Szkołę Dokorską w Uczelni;
- 3) zapewniał prawidłową realizację procesu kształcenia w Szkole Doktorskiej;
- 4) występował z wnioskami do właściwych organów Uczelni we wszystkich sprawach dotyczących Szkoły Doktorskiej ;
- 5) zapewniał właściwe warunki pracy w Szkole Doktorskiej, w szczególności zgodne z zasadami bezpieczeństwa i higieny pracy;
- 6) dbał o należyte i racjonalne wykorzystanie mienia Szkoły Doktorskiej, w tym przez stwarzanie możliwości korzystania z infrastruktury i mienia jednostki;
- 7) organizował obsługę administracyjną i organizacyjną kształcenia doktorantów w Uczelni,
- 8) wykonywał inne czynności przewidziane przepisami prawa, postanowieniami Statutu oraz uchwałami i zarządzeniami organów Uczelni.

Kraków, dnia 1 września 2020 r.

R e k t o r

dr hab. inż. Sylwester Tabor, prof. UR

do wiadomości:

1 x Kwestor

1 x Biuro Spraw Osobowych

1 x a/a

KEN

2023-2027



**NATIONAL
INFORMATION
PROCESSING**
INSTITUTE



Minister of Science and Higher Education
Republic of Poland

Assessment of the quality of education in doctoral schools
is made by the Science Evaluation Committee

The Evaluation System of Doctoral Schools
is financed by the Minister of Science and Higher Education
