

SUPPLEMENTS TO THE SELF-ASSESSMENT REPORT OF THE DOCTORAL SCHOOL: Szkoła Doktorska Nauk Ścisłych i Przyrodniczych UŁ

The Doctoral Students' Self-Government (DSSG) of the DS has been involved in establishing rules for financing PhD students' research activities from DS funds since 2021, when the DS budget enabled such support. After the expenditure plan was prepared, the Director of DS determined the amount to be allocated to so-called minigrants for PhD students and proposed the rules and procedure for awarding them. During discussions with the DSSG, cost categories reflecting the needs of particular disciplines were clarified, and a schedule was adopted with an updated description of the application and settlement procedures. After consensus was reached, the rules adopted remain in force. They are continuously adjusted in accordance with the legal acts of the University of Lodz (UL) and suggestions from the DSSG (e.g., settling per diem payments for trips; in 2025, streamlining the invoice settlement procedure; in 2026, a planned simplification of formalities related to foreign trips). The Director of DS informs the School Council (SC), which includes doctoral student representatives, about the planning and execution of the DS budget. PhD students may apply for funding to attend conferences from funds administered by the University Doctoral Students' Self-Government Council (URSD), in accordance with the rules it specifies.

A doctoral student representative serves as an observer in the Recruitment Committee, which recommends supervisors for candidates qualified for admission to DS. Doctoral student representatives are included in the SC, which at its October meeting approves candidates for supervisors before they are formally appointed. The Self-Government has not issued a negative opinion on any candidate for supervisor.

Applications for a change of supervisor were submitted by four individuals (by mutual agreement between supervisors) due to: a breakdown in effective communication and cooperation with the supervisor; the supervisor's health problems; and his planned retirement. Two doctoral students indicated that, due to the evolution of their research interests and their focus on applied aspects, a change of supervisor would enable more dynamic scientific development and access to high-level substantive support.

Doctoral students are regularly updated on the schedules of NCN calls and workshops for applicants, which also serve to motivate them to submit proposals. DS doctoral students are informed about research funding options and the principles of preparing grant applications during compulsory first-year courses ("Research Funding and Knowledge Transfer 1 and 2"; 20 hours). These courses motivate students to apply for external research funding. They take place before the submission of the Individual Research Plan (IPB), which enables planning the IPB with a grant application in mind. Research project workshops are a recurring event within the Doctoral Student Day organized by URSD. According to DS Regulations, it is the supervisor's duty to support the doctoral student in obtaining research funding.

NCN Preludium success rate – 17.1%.

The assessment of the implementation of the doctoral project is multidimensional. It is not only to verify task completion but also to evaluate one's scientific development, acquisition of research competences, and level of independence in conducting research. The primary reference point is the IPB, especially the current progress in task implementation relative to the adopted schedule. The assessment is based on implementation reports for specific research tasks, the level of advancement or completion, and any modifications to the IPB, together with a substantive justification. Attachments to IPB confirm one's scientific activity in qualitative terms. An important component of the evaluation is the supervisor's assessment, which is included in both the IPB progress report and the Doctoral Student Assessment Form. It enables a qualitative appraisal of the doctoral student's research progress, methodological and analytical skill development, scientific independence, and the formation of their scientific identity. During the mid-term evaluation and the interview with the doctoral student, the evaluation committee conducts an expert assessment of the progress in implementing the IPB. The supervisor's opinion at the completion of the curriculum also refers to the learning outcomes (LOs) achieved through the implementation of the IPB and preparation of the dissertation.

Doctoral students removed from the programme had, on average, lower evaluation scores than those who completed it successfully. This does not mean that every removed doctoral student had a lower mid-term evaluation score than every doctoral student who completed the curriculum. Tightening the mid-term evaluation

criteria to eliminate those likely to be removed at a later stage could also lead to the removal of those who could compensate and eventually succeed. A low mid-term evaluation score is just a signal that previous activities require modification. Another reason for removal is a decline in PhD students' motivation after the mid-term evaluation. A monitoring element of scientific progress is the DS seminar, which is mandatory for third-year doctoral students.

21.87% of DS academic staff have at least one year of international work experience. Number of co-authored publications with foreign partners – 1095 (2019-2025).

Classes for DS doctoral students are scheduled in a block system, in which each course spans a period shorter than a semester. International teachers lead block-format courses (e.g., an English-language seminar until 2021/2022; Coding Club – R language in statistics; Medicinal Chemistry and Molecular Pharmacology) as well as one-off lectures and seminars (including research seminars) that complement the core curriculum. These are organized by DS and other doctoral schools of UL or at UL faculties (list available for inspection).

IPB takes internationalization into account through: carrying out research tasks in international scientific teams (139 doctoral students' articles in international co-authorship; co-tutelle doctoral programs), scientific mobility and international internships, participation in international conferences, and publishing results in international circulation. Establishing contacts and opportunities for collaboration with foreign researchers is facilitated by the Research Seminar and courses in the curriculum in a seminar format (ZOO Seminars, Innovations within reach...).

No DS doctoral students have applied for European grants, but several have participated in European projects, e.g., COST Action OPERA (European Network for Innovative and Advanced Epitaxy). One doctoral student participated in two international experiments on MAGIC and LST-1 telescopes.

Despite promotional activities, including cooperation with a specialized company Keystone AS (Educations.com portal), a significant increase in international applications was not achieved. For example, in 2024/2025, foreigners accounted for 24.5% of candidates registered in IRK and 11% of those admitted to DS; in 2025/2026, the figures were 26% and 15.4%, respectively. An analysis of the effects of cooperation with Keystone (2024–2026) is available for inspection.

One person from the second intake extended the dissertation submission deadline by six months due to a special life circumstance (pursuant to the Regulations).

All DS graduands whose doctoral degree proceedings were completed have obtained a doctoral degree. Two doctoral students did not apply to initiate doctoral proceedings after completing their curriculum (one had already earned a doctorate in another discipline). The supervisor and the SD administration can only take informal actions to support and motivate the PhD student to initiate the degree-awarding procedure (such actions have been taken), but they do not have any influence over the doctoral student's individual decision.

The adopted survey system is based on appropriate Rector's Regulations. The survey assessing the functioning of DS (Rector's Regulation No. 164 of 16/6/2021; modified template – Rector's Regulation No. 6 of 8/10/2024) covers the organization and effectiveness of education, quality of academic supervision, functioning of the DS, and the well-being of international DS students (anonymous via MS Forms). Results are summed up in DS Director's report and by the Doctoral Schools Committee (quality management process). The survey evaluating the work of teaching staff (USOS; Rector's Regulation No. 157 of 2/6/2021) enables doctoral students to assess the quality of classes, the adequacy of teaching methods, and compliance with the syllabus. Results are analyzed by the School Council and used in determining staff composition (monitoring the level of education). An element of the quality assurance system is an MS Forms survey for course coordinators (Rector's Regulation No. 96 of 13/6/2024), which links LOs with teaching results and supports the formulation of recommendations for future course improvements. Survey-based monitoring also supports mid-term evaluation by gathering committee members' opinions on the process and the clarity of assessment criteria.

In addition to systemic changes in curricula (2021/2022 and 2024/2025), modifications were introduced in response to signals from the doctoral community, i.e. results of surveys on education process, comments and postulates submitted by doctoral students to the DS Director, and proposals from the DSSG. Survey feedback on organizational issues and course content prompted several changes in the following academic year: updates to course materials, adjustments in teaching staff, and the removal of one course. New elective workshop-based courses were introduced (e.g. Validation of Chromatographic Methods), and the DS introduced a 14-hour workshop, "Basic Principles of Machine Learning and Artificial Intelligence" (23/24), in response to doctoral students' requests.

ATTACHMENTS TO THE SUPPLEMENTS

No attachments were provided as supplements.