

Programme of studies at the Interdisciplinary Doctoral School of Agricultural Sciences

§ 1

1. Education at the Doctoral School (hereinafter: "the School") is carried out as part of the following disciplines:

- animal science and fisheries – Institute of Animal Reproduction and Food Research of the Polish Academy of Science in Olsztyn (IARFR PAS),
- nutrition and food technology – Institute of Animal Reproduction and Food Research of the Polish Academy of Science in Olsztyn (IARFR PAS),
- veterinary science – National Veterinary Research Institute (NVRI) in Puławy.
- agriculture and horticulture – Institute of Agrophysics of the Polish Academy of Sciences (IA PAN) in Lublin.

§ 2

1. Education at the School lasts 4 years and gives the PhD students the opportunity to:

- conduct scientific research and prepare a doctoral dissertation in an interdisciplinary scientific environment,
- strengthen and expand knowledge in the field of agricultural sciences,
- acquire practical skills useful in scientific and implementation work;
- present the results of scientific research,

as a part of individual research plans created for each of them, adapted to diverse specifics of the disciplines listed in § 1, at level 8 of the Polish Qualifications Framework (PQF).

§ 3

1. The curriculum at the Doctoral School includes classes preparing a doctoral student for scientific and research work. It shall not comprise the total time allocated to the completion of a doctoral dissertation. The time required for the completion of a doctoral thesis shall be agreed between the doctoral student and his/her supervisor.

2. Education at the School is carried out in the form of 4 types of courses:

- Obligatory courses related to School disciplines.
- Elective courses - specialization workshops - practical training classes in skills, methods or research tools and procedures related to individual School disciplines.
- Seminars – scientific seminars related to individual disciplines.

- Additional activities - activities developing a researcher's skills, independent of the chosen discipline.

Classes are conducted in Polish or English. In the absence of English-speaking participants, classes may be conducted in Polish.

§ 4

1. The basic list of courses organized by the School and ECTS scoring is included in Annex 1 to the *Programme of Studies*.
2. Subsequent extensions of the list referred to in point 1 are posted on the School's website no later than 7 days before the start of the relevant semester.
3. Completion of the course requires the participation of a PhD student in a minimum of 80% of the classes.
4. Some courses can be held during summer/winter school.
5. The Doctoral School Board may indicate the minimum number of registered students necessary to conduct given courses.

§ 5

1. During 4 years of education in Doctoral School, a PhD student is required to accumulate at least 32 ECTS points, including at least 6 ECTS points obtained in total as a result of passing elective courses and at least 10 ECTS points obtained in total as a result of completing additional project-related activities offered by the School.
2. Detailed requirements regarding the choice of courses referred to in point 1 are contained in Annex 2.

§ 6

Any doubts concerning interpretation arising from the Programme of Studies or issues not covered by it shall be resolved by the Doctoral School Board.

§ 7

The Programme of Studies shall take effect on October 1, 2020.

1. Obligatory courses:

- 1.1. Major Course/courses related to the chosen scientific discipline - 30 h / 2 ECTS
- 1.2. Statistical methods in scientific research – 30 h / 2 ECTS
- 1.3. Ethical and legal aspects in scientific research 5h / 1 ECTS
- 1.4. Specialized workshops with a selected foreign language – 30 h / 3 ECTS
- 1.5. Raising funds for research and preparation of a scientific project – 15 h / 2 ECTS
- 1.6. Preparation and editing of a scientific paper – 15 h / 2 ECTS
- 1.7. Copyright and intellectual property – 5h / 1 ECTS
- 1.8. Occupational health and safety – 5 h / 1 ECTS

2. Elective courses (workshops) *

- 2.1. Molecular biology techniques - 15 h / 2 ECTS
- 2.2. Food supply chain safety – 15 h / 2 ECTS
- 2.3. Microbiology – 15 h / 2 ECTS
- 2.4. Modern methods of proteome analysis – 10 h / 2 ECTS
- 2.5. Modern methods of metabolome analysis - 10 h / 2 ECTS
- 2.6. Sensory analysis of food - 12 h / 2 ECTS
- 2.7. Cell culture techniques - 15 h / 2 ECTS
- 2.8. Cell and tissue imaging – 15 h / 2 ECTS
- 2.9. Physical methods in food research - 15 h / 2 ECTS
- 2.10. Molecular techniques in food research - 15 h / 2 ECTS
- 2.11. Food safety and quality - 10 h / 2 ECTS
- 2.12. Selected topics in bioeconomics – 10 h / 2 ECTS
- 2.13. Plant adaptation to climate change – 10 h / 2 ECTS
- 2.14. Transfer of knowledge and technology – 5 h / 2 ECTS
- 2.15. Alternative methods to animal testing in toxicology – 10 h / 2 ECTS

** PhD student can choose courses in any of the Institutes participating in the Doctoral School*

3. Seminars – 60 h / 4 ECTS

4. Other project-related activities

- 4.1. Conducting own research project/grant - 2 ECTS / per project; max. 4 ECTS in 4 years
- 4.2. Research internship abroad - 2 ECTS per internship - minimum duration of the internship: 1 month; max 4 ECTS in 4 years
- 4.3. Participation in a research / commercialization / implementation project - 2 ECTS/per project, points awarded once during the whole period of education
- 4.4. Participation in a scientific conference - 3 ECTS (1 ECTS per conference)
- 4.5. Authorship of a scientific publication - 4 ECTS per publication; max 8 ECTS in 4 years
- 4.6. Activities promoting science – 3 ECTS (1 ECTS per activities; no more than 1 ECTS in a year and 3 ECTS in 4 years)

Detailed requirements for the courses referred to in § 5 para. 1. Programme of Studies.
A list of courses for each disciplines can be found in Annexes 3, 4, 5, 6.

A. Obligatory courses (lectures)

A minimum of 12 ECTS points must be obtained during the first 2 years of school education by passing the exams in the following courses:

1. Major Course/courses related to the chosen scientific discipline (30 h /2 ECTS)
2. Statistical methods in scientific research (30 h /2 ECTS)
3. Ethical and legal aspects in scientific research (5h / 1 ECTS)
4. Specialized workshops with a selected foreign language (30 h /3 ECTS)
5. Raising funds for research and preparation of a scientific project (15 h / 2 ECTS)
6. Preparation and editing of a scientific paper (15 h / 2 ECTS)
7. Copyright and intellectual property (5h / 1 ECTS)
8. Occupational health and safety (5 h / 1 ECTS)

B. Elective courses (workshops)

A minimum of 6 ECTS points should be obtained during 3 years of the studies at the Doctoral School passing selected courses from the group of elective courses offered in a given discipline. Courses can be organized by individual Institutes or during a summer/winter school. An updated list of available trainings, together with ECTS points and an indication of the entity responsible for the trainings, is available on the School's website.

C. Seminars - Regular attendance at doctoral seminars and seminars organized by the Institute where the student is conducting his/her PhD studies is obligatory (8 semesters, 4 ECTS).

D. Other project-related activities. A minimum of 10 ECTS points should be obtained by taking part in selected activities listed below:

1. Conducting own research project/grant - 2 ECTS / per project; max. 4 ECTS in 4 years
2. Research internship abroad - 2 ECTS per internship - minimum duration of the internship: 1 month; max 4 ECTS in 4 years)
3. Participation in a research / commercialization / implementation project - 2 ECTS/per project, points awarded once during the whole period of education
4. Participation in a: scientific conference- 3 ECTS (1 ECTS per conference)
5. Authorship of a scientific publication - 4 ECTS per publication; max 8 ECTS in 4 years
6. Activities promoting science – 3 ECTS (1 ECTS per activities; no more than 1 ECTS in a year and 3 ECTS in 4 years)